The Boston Medical and Surgical Journal

Table of Contents

April 13, 1916

ADDRESS

PROGRESS OF NURSING. *By William H. Merrill, M.D.*, Lawrence, Mass. 519

ORIGINAL ARTICLES

CONFERENCE OF MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE

I. What Shall be the Attitude of the Public Toward the Recovered Insane Patient? *By H. C. Solomon, M.D.*, Boston 522

II. The Relation of Syphilis to Mental Disease. *By Samuel T. Orton, A.M., M.D.*, Philadelphia 525

III. After-Care of Mental Patients. *By Henry P. Frost, M.D.*, Dorchester, Mass. 528

THE ROENTGENOSCOPIC EXAMINATION OF THE STOMACH AND DUODENUM. A REPORT BASED ON THE FINDINGS IN 730 CASES EXAMINED DURING THE YEAR 1914. *By George W. Holmes, M.D.*, Boston 531

THE INCIDENCE OF VISCEROPTOSIS. *By I. H. Levy, M.D.*, Syracuse, N. Y., and *J. L. Kantor, M.D.*, Syracuse, N. Y. 534

MEDICAL PROGRESS

REPORT ON DERMATOLOGY. *By John T. Bowen, M.D.*, Boston (Continued) 535

SOCIETY REPORTS

CLINICAL CONFERENCE OF THE NEUROLOGICAL INSTITUTE, NEW YORK, MEETING OF JANUARY 4, 1916 539

HARVARD MEDICAL SCHOOL

MEDICAL MEETING AT THE PETER BENT BRIGHAM HOSPITAL, MARCH 28, 1916 543

BOOK REVIEWS

Anatomy of the Brain and Spinal Cord. By Harris E. Santee, M.D. 544

EDITORIALS

A NOTEWORTHY SCIENTIFIC MEDICAL DISCOVERY 545

IMPORTANT NEW DATA ON BOTULISM 546

ANTI-MENINGITIS SERUM 547

MEDICAL NOTES 548

MASSACHUSETTS MEDICAL SOCIETY

ESSEX NORTH DISTRICT MEDICAL SOCIETY 551

OBITUARY

WILLIAM PALMER BOLLES, M.D. 551

CORRESPONDENCE

AMERICAN ASSOCIATION OF GENERAL PRACTITIONERS. *Charles Malone, M.D.* 552

THE PROPOSED AMERICAN ASSOCIATION OF GENERAL PRACTITIONERS. *A. L. Benedict, M.D.* 553

USE OF BACTERINS IN DERMATOLOGY. *Leon S. Medalia, M.D.* ... 554

MISCELLANY

MEMORIAL RESOLUTION FOR DOCTOR ROWE 551

NOTICES, RECENT DEATHS, ETC. 554

Address.

PROGRESS OF NURSING.*

BY WILLIAM H. MERRILL, M.D., LAWRENCE, MASS.

IT has been suggested to me to present a very brief sketch of the progress of nursing as exemplified in the establishment and development of training schools for women nurses. Limitation of knowledge and time compel me to note, with two exceptions, the events in our country only.

No attempt will be made to describe the conditions of the dark ages previous to the entrance of organized bodies of women into the field of nursing, except to say that a reading of the statements, official and lay, of those conditions shock and pain us; and to note the individuals, dates and localities which stand out in high lights by brilliant contrast with the darkness. The first of these beacons, the one of greatest brilliancy and longest duration, is the nursing by the women of the religious orders. This nursing must, from the very nature of the times, have been unscientific and, in a medical sense, untrained; but it possessed qualities which will always be of the highest importance,—sympathy, kindliness and cleanliness. The history of this nursing is a glorious part of the history of the women of the church and of its priesthood. So far as I am informed, the work of nursing has always been promoted and fostered by religious orders, or prominent members of such bodies.

In this country sporadic attempts, and some of them in a measure successful, were made, from a period just before the nineteenth century on, to establish places of training for women in nursing, especially in maternity cases. The first of which there is a record was in 1798, under Dr. Valentine Seaman at the New York Hospital. A notable one in Philadelphia, connected with the Philadelphia Dispensary, has records beginning in 1837, but it had been in existence much longer. This one endeavored with some success to extend its activities beyond maternity cases into general work, and to what is now known as district nursing. This latter branch was very successful and continued until the close of the century.

Judged by the standards of Florence Nightingale, these would not be considered real training schools, or at least, only in a most experimental stage. Contrasted with the ideas of teaching, discipline, and all details of administration as conceived by Nightingale, they certainly were crude. I have been informed by experts that Florence Nightingale's conception of the fundamentals of the training of nurses has not been exceeded in the intervening years, a rare conception to have remained the thread on which have been strung all the marvelous developments of the art for 54 years.

When Florence Nightingale's work in the Crimea was drawing to a close, her friends and admirers in England desired to provide a memorial for her. When approached on the subject Miss Nightingale said the most acceptable form it could take would be an endowment for a training school for women nurses. A meeting to

* An Address to the Graduating Class of the Lawrence General Hospital Training School, 1914.

promote this memorial was held in London in 1859. Although the meeting was an enthusiastic one and attended by prominent people of the time, one of its noticeable features was the absence of equally prominent individuals, and especially statesmen, who had been invited.

A fund was subscribed and placed in Miss Nightingale's hands for administration, and in 1860 she was permitted to establish the first training school for nurses, as we know the term, in the world, in six wards of St. Thomas', the oldest hospital in England. The policy of this school was to train women, not for private work, but to become superintendents of other training schools. Well did it do its work, and so quickly did the new idea become popular that within ten years its graduates were scattered over England and Scotland at the head of training schools.

In 1861 a school for training maternity nurses was established at the Woman's Hospital in Philadelphia, and ten years later the Woman's Hospital of Chicago began more or less systematic training of women for such work. The time had now come and the competent women were at hand definitely to organize the movement in America.

In the fall of 1872 the New England Hospital for Women and Children in Boston offered a course of one year in practical nursing, supplemented by lectures and demonstrations. Six pupil nurses entered during the fall, the earliest of whom was Linda Richards, who, aside from being the first nurse to receive a diploma in America, was so gifted that she became the most notable figure in this country in the organization of training schools. To her little autobiography, which I urge you all to read, we are indebted for the most interesting account of earlier conditions, now available. The next spring, 1873, the Bellevue Hospital Training School for Nurses was organized and offered a two years' course.

Although I promised not to disturb you with a recital of the horrors of illness before nursing by women was established, I cannot refrain at this mention of Bellevue Hospital to quote the description given by Mrs. Joseph Hobson, secretary of the committee appointed by the New York State Charities Aid Association, of her first official visit to Bellevue Hospital. An account of what she saw may offer a reason why the Bellevue Hospital Training School for Nurses was the second one founded in America.

Mrs. Hobson wandered into one of the large double wards of the hospital; there was no one to ask what she wanted or who she was, and finally she found a young man busied about the patients, who proved to be a physician. Introducing herself, she said she would be grateful for a few hints as to what to look for. "You want to see things," said the young man, with an inexplicable expression. "Well, I can show them to you. Do not appear to be with me, but follow me around." Mrs. Hobson followed him, and watched as he lifted the bed-clothes from a newly arrived case and proceeded himself to give to the patient—a woman—some attempt at a bed bath.

This young man was Dr. Gill Wylie, who later became one of New York's most eminent surgeons. Dr. Wylie then conducted Mrs. Hobson to the bath room and pointed out the litter of dirty rags on the floor, where the "nurse" (a ten-day prisoner from the Island) had her bed. The dinners came to the wards, and fish and potatoes were dumped, without dishes or knives, on the bare boards of long tables. In the laundry was one lone old decrepit man, its only force, and he had had no soap to use for six weeks, because the appropriation had given out.

This hospital was probably the worst in the country, but there were other municipal hospitals and almshouses combined where conditions were but little better. Great as has been the relief of the wealthy members of our communities by the development of a supply of trained nurses, it is immeasurably surpassed by the comfort and life-saving service to the needy. Linda Richards upon her graduation in the fall of 1873, came to Bellevue as its first night superintendent.

A few months after Bellevue, the Massachusetts General Hospital Training School for Nurses was organized, to be reorganized a year later by Miss Richards. The reason for its reorganization will be glimpsed in a recital of conditions by Miss Richards later, when speaking of the teaching and work of individual pupil nurses. In this year the Training School of the Hartford Hospital, at Hartford, Conn., was founded; in 1875, the New York City Training School at Blackwell's Island; in 1876, the Pennsylvania Hospital Training School at Philadelphia; in 1877, the New York Hospital Training School, New York City; and the same year the Buffalo General Hospital Training School, Buffalo, N. Y.

The founding of the Boston City Hospital Training School in 1878 marked a new epoch in training school administration. Up to this time the training schools had not been an integral part of the hospital, but were conducted by an outside body of women, who were given authority to conduct the training in the wards of the hospital. Such an arrangement led to divided authority, friction and inefficiency. Dr. Cowles, the superintendent, was alert to this defect, and when the trustees gave permission to establish the school at the Boston Hospital, Miss Richards was called from the Massachusetts General to organize a school which should be an integral part of the hospital. This departure has been an unqualified success. There is but one training school of importance in the country now not so organized.

The movement was now spreading so rapidly that an enumeration of the schools founded in the immediately ensuing years is hardly possible, and cease to be interesting except to note this rapid growth and to speak of those which

are of interest to a particular community. It is my information that the Salem Hospital Training School was the first in Essex County, organized in 1880.

We are naturally much interested in the development of our local training school, and will glance at its history. Founded in 1882, only four years after the Boston City, and along the lines of that school, its standard has been high, its work efficient, and its growth rapid. Interesting details of its organization by the devoted and far-seeing individuals who promoted it, are found in the annual reports of its then president, Mrs. George W. Sargent, in 1887, and in an admirable address by Dr. George B. Sargent, delivered at the graduating exercises of the class of 1906. To these sources I am indebted for most of the following figures.

The entering class of 1882 was six in number; in 1896 there were ten pupil nurses. The number had increased in 1904 to twenty, and there are now forty-two pupil nurses and six graduate nurses connected with the school. This number will necessarily be increased to fifty upon the completion of the children's ward, now under construction. One hundred and seventy-six women have received diplomas. These 176 were the survivors who met the various elimination tests, out of a total of 600.

While compiling this very brief, and in many important details incomplete, résumé of the development of these organizations to provide nursing for the sick, two things have much impressed me: The rapidity of its development,—all within the professional life of men now actively engaged in the practice of medicine; and the preponderating influence of women in its organization and promotion. Carlyle said, "History is the biography of great men." The history of nursing is the biography of great women.

We will now glance a moment at the development in the training the individual pupil nurse receives. And again we take a glimpse of the conditions in the pre-training school days through the eyes of a woman,—Miss Richards. About 1868 Miss Richards entered the Boston City Hospital, in the capacity of what received the name of nurse, but which she says was that of the ward maid of today. She scrubbed the floors, washed the dishes, and very occasionally the patients. The matron of the ward gave the medicine as per orders from bottles which had numbers, not names, of medicines on them, and of whose contents she had no knowledge.

When Miss Richards was night superintendent at Bellevue, which had 200 or more patients, the gas and heat were turned off at midnight. Two candles per week were provided the nurse of a ward with which to locate a patient after midnight, and if she used more she had to pay for them. No records were kept until the next year; all information given by one nurse to another or to a doctor was verbal.

When Miss Richards began the reorganization of the Massachusetts General Hospital Training School the following routine for the nurses was in vogue. A nurse would begin the day washing used poultice cloths and bandages, and it would be afternoon before the task was finished; then she would go off duty. The second day this nurse helped in the dining-room and washed dishes. On the third day she went to the wards, washed the patients' faces, swept floors, and made beds. The fourth day she would act as head nurse. The fifth day she served as general utility nurse, but at nine went off duty to sleep, so as to be ready to go on duty that night. The sixth day she had to herself. This last arrangement, which gave the nurse a rest one day in six, was the only feature of the system not wholly bad. On the seventh day she again washed poultice cloths and bandages. No wonder a member of the staff said they "knew nothing. Put the school out; we do not want it; our old way was better."

The esteem of the staff of every hospital is abundant evidence that the methods and training in the schools have changed. A nurse now arrives at the distinction of being in charge of a ward only when well along in her third year, probably rarely before the beginning of the third year.

Members of the Graduating Class, while a few, upon whose head the frost is gathering, sigh for "the good old days," I assure you most of those privileged to have lived in a number of decades believe this to be the best one of all in the world's history. The brief sketch of the earlier methods of training and its gradual change to the methods and standards of the present assures you that at no previous time would you have received so high a training with so small an amount of physical laborious work, great as this has been, as now. You are also entering the practice of your profession at a time when the idea of individual service direct from one human being to another is more than ever the ideal of civilization.

Your training and the character of the service you are to render the community are in harmony with this ideal. The opportunity of realizing in your lives this ideal of service is greater than that of the members of any other profession, not excepting the clergy or the medical. Some consciousness of this opportuinty for service must have led you to begin the training, and we know that by precept and example it has been called to your attention for three years. This is not said to incite you to grasp this opportunity, for I believe you will do so, unconscious perhaps of any special effort to attain an ideal, but simply as a part of "The Day's Work." During these years you have also been incited to attain to the highest plane of the ethics of your profession by those most competent to do so; these were and are your true friends, and with your consent would be your guides.

At one time I might have suggested to you the deliberate offering of your services without pay at times to charitable institutions or in private cases. A fuller comprehension of your exhausting duties inclines me to the belief that only in exceptional cases and by those endowed with more than the usual endurance is this advisable, or your duty. To render to the patients in your care painstaking service it is necessary that you should be in good health and not overtired. The usual paid work required of you who will depend upon your own work for a livelihood, will demand your strength well up to these limitations.

Now I would call your attention to a fast widening field, in which those of special aptitude, ambition and willingness to pay the price of time and study may render signal social service. I refer to the rapid utilization of the services of trained nurses in such official and semi-philanthropic work as school nurses, nurses for insurance companies, industrial companies, milk stations, etc. You may ask how this can be an avenue for special social service, when nurses are paid for their work. The reply is that the pay is all or more than a poorly trained, or an ambitionless nurse is worth; but it is much less than the value of an intelligent, well-trained, devoted, resourceful woman, who is ambitious always to render more service than she is paid for. The possibilities in this work are almost limitless and the demand for a high type of nurse insistent. The kind of woman desired is illustrated in a circular received by the head of your school from the city of Philadelphia announcing an examination for nurses. The total of ten points making the examination is divided as follows: four for training and experience, three for personality and judgment, and three for technical knowledge of nursing. This will illustrate that this work demands the technically well-trained nurse, as understood in the past, plus social and executive capacity and experience in broader fields.

Opportunities are opening where those fired with a desire for this larger service and of such capacity can obtain the experience if they are willing to give time. To this field I would direct only those who are willing to pay the price, and not be time-servers, simply "holding a job." During the three years of training, your exacting duties and conformity to necessary discipline has limited your social privileges; the duties of your profession, its hard, long-continued hours of work and irregular hours of leisure will continue this limitation.

The development of your profession has brought within each community a body of intelligent young women as capable of social enjoyment as any of its members. Most of these women are a long distance from their homes and are largely dependent upon the members of that community for the good fellowship so necessary to the normal life. I bespeak for you a continuance of the kindly interest which I know you have experienced from those with whom you have come in contact; and also a more general and careful consideration of your special social problems, which arise from the tendency to isolation, produced by the character of your work. A consideration on your part of the means at hand will show you many open doors to the social life of the community, where you will be heartily welcomed. All the church societies and the Young Women's Christian Association welcome you.

Again, there is an important avenue to a semi-social, semi-professional life of which you are strongly urged to avail yourselves. I refer to the fellowship of your state, county and alumni organizations of nurses. It is your privilege and duty to become members of these organizations as soon as you are eligible. From other members you will receive information, stimulation to better work, and be in a position to aid in the general advancement of your profession. No nurse can live to herself alone, and every successful performance of duty adds to the honor of you all, as does every failure detract from the honor of all. Those who have watched your work in the past believe you will discharge those duties creditably in the future.

Original Articles.

CONFERENCE OF MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE.

I.

WHAT SHALL BE THE ATTITUDE OF THE PUBLIC TOWARD THE RECOVERED INSANE PATIENT?*

BY H. C. SOLOMON, M.D., BOSTON.

Assistant in Neuropathology, Harvard Medical School; Investigator of Brain Syphilis for Massachusetts State Board of Insanity; recently Assistant Physician, Psychopathic Hospital, Boston.

DR. CHARLES W. PAGE, in an address before the State Board of Insanity Conference at the State House in 1904, said: "While a certain portion of the human family must have suffered from mental disorders for ages past, it is only about 100 years since the propriety of controlling insane persons by the aid of manacles, shackles, ropes, straps, etc., was especially called into question. At this stage of the world's progress, it is difficult for one to comprehend those former-day doctrines of philosophy, religion and ethics which overpowered or distorted human sensibilities to such a degree that compassion for the afflicted insane had little, if any, weight in deciding what measures should be employed

* Read before the Conference of the Massachusetts Society for Mental Hygiene, Ford Hall, Boston, Nov. 18, 1915.

in their treatment; while a vague, mysterious horror, or fear of the disease, readily suggested to friends or custodians, barbarous antagonism to its manifestations."

If such was the attitude of the trained attendants of the insane and the students of insanity so short a time since, it should not seem strange that the general public, the layman, still has some of this "vague, mysterious horror, or fear of the disease." That this feeling is fairly general needs no emphasis to this audience, I am sure. The reason for this is a misconception of the meaning of insanity, associated with the prejudice of the ages. In the minds of many, insanity means a wild, maniacal state. To them insanity is synonymous with "madman." This, of course, is not true. The majority of the insane, on the contrary, are quiet and apathetic. We frequently have difficulty in convincing relatives and friends that a patient is really mentally diseased, and many are the exclamations of surprise because patients often show nothing that seems abnormal. Recently I have had medical students come to me after examining a patient and state that the patient was not insane, for he was not different from certain persons seen outside of the hospital. The reply is that those referred to outside the hospital may have been insane, for mental disease does not necessarily mean that intramural care is required. There are many persons in the community suffering from a more serious form of mental disease and further advanced than patients in our institutions. Many of the so-called eccentric and peculiar individuals are, in fact, suffering from mental disease. Then "nervous prostration," "nervous breakdown" or "mental breakdown" means in very many instances that the patient is going through an attack which the psychiatrists would call an attack of insanity. As long as the condition is called by any of these names the person is safe, but as soon as his associates are convinced that this condition is one of insanity, a morbid and hysterical fear wells up and the person is an object of suspicion to be avoided.

But it is not of the insane patients that I wish to speak. It is rather about the patient who has recovered from an attack of insanity—recovered so entirely that he shows no signs of his previous illness and has regained his former efficiency as an individual and as a member of society.

There are many forms of insanity, and in some of these forms the outlook for recovery from the attack is good. The most important group from this standpoint is the group suffering from manic-depressive insanity. The characteristic feature of this form of insanity is that the patient, after an attack of mania or depression, or a combination of these two states, recovers completely. It is from this form of disease that a large portion of the discharged patients are drawn. Of 1348 discharges from the state hospitals of this Commonwealth in 1914, 286, or 21%, were victims of this form of disease. A somewhat smaller percentage of recoveries, 12.7%, belong to the group of alcoholic psychoses. Others are discharged during the year who have not completely recovered, but who still have vestiges of their former trouble, or who are somewhat deteriorated. We shall not consider this group, however.

When a patient leaves the hospital as recovered he is no longer insane, he is no longer ill. He has been able for quite a period to get on well in the protective environment offered by the institution. He now comes out into the more complicated environment offered by the community. He must again take his place as a member of society. Usually he must make his living. He must mingle with others. On the reception that he meets much depends.

Just as a mistaken idea of the meaning of insanity pervades the minds of so many, so is there an ignorance of what to expect of the recovered patient. This lack of knowledge leads to a fear such as a timid child feels towards the unknown dark. If fear is not palpably expressed, a suspicious attitude is likely. One avoids being alone with this person of unknown potentialities. Perhaps he will have an outbreak. Perhaps if he is given matters of importance to attend to, his judgment will prove faulty.

If we will only bear in mind that many so-called cases of nervous prostration,—cases that all are familiar with and none fear,—are in reality cases of manic-depressive insanity, it will be easier to realize that the recovered patient recovers to such a degree that he shows no symptoms, no peculiarities, nothing that should allow suspicion to rest upon him. He is entirely fit to return to any form of enterprise of which he was previously capable, for one of the essential characteristics of this disease is that there is no deterioration.

The unfortunate reaction of the public toward the recovered insane patient affects him in three relations: (1) individually, (2) socially, and (3) as a member of the body politic. He finds that it is difficult for him to obtain employment. I have asked many of my lay friends what their attitude would be toward employing an individual who had been discharged from an insane hospital, and almost invariably a hesitancy, if not an absolute refusal, was the reply. Many explanations were offered, based in large part on a feeling of fear. A few people wisely stated that they would want the advice of the psychiatrist who had charge of the patient, and felt that they would act on his advice. This reaction I cannot commend too highly. There are a few who are only too glad to give employment to these patients, but they may be classed with the philanthropists who are willing and anxious to give employment to discharged convicts. The majority are afraid; afraid of what—they do not know.

And as the patient meets difficulties in obtaining employment, so, too often, does he meet

difficulties in communion with his fellowman. He is conscious of the feeling of suspicion on the part of his family and friends. He realizes that he is being continually watched, and that continually it is expected that he will do something. The fact that he has been insane is frequently thrown up in the heat of argument. Finally his expressions of opinion are met too frequently with a frank skepticism, as coming from an unstable mind.

The effect on the recipient is readily imagined. As a rule, after recovering from an illness an individual finds himself reduced financially and in urgent need of work. If this is not forthcoming it provides justifiable cause for worry, and worry is to be avoided. Then, as work has been shown to have a therapeutic value for the insane, even more so is it important to keep the recovered patient busy and occupied, so that he may have no cause to brood.

The story of "A Man Without a Country" may be used to illustrate what must be the effect of a somewhat similar attitude of society to the recovered insane. One need not be a fervent believer in psychogenesis, or an ardent advocate of the effect of an unfavorable environment in the production of mental disease or the precipitation of an attack to see that this condition must result deleteriously to the patient.

I have said that these recovered patients retain their former characteristics and abilities. They are as they were before the attack. This is true, but it is likewise true that these patients are subject to, and likely to have, recurrences. The prognosis given in manic-depressive insanity is that the patient will recover from the attack, but that he will be likely to have other attacks. This period of recovery is called a remission. A remission may be of a few hours' duration or of many years, and in some instances, there may be no recurrence. There are certain generalities as to the probable frequency of attacks and length of remissions that the psychiatrist can offer. The attack rarely, if ever, comes on suddenly, without warning. There are danger signals, such as insomnia, loss of appetite and loss of interest, unrest, etc., which are significant to the specialist. It is here that the psychiatrist and the institution are called upon to play their part in relation to patient and community. It is possible in nearly every case to forecast an attack, if the patient is kept under observation by a specialist.

It is the routine of most state hospitals that when a patient is discharged he is discharged to the out-patient department, where he is expected to pay visits at least once a month, in order that his condition may be observed. His friends and employers are informed that the hospital stands back of the patient, and if they have any doubts they have merely to communicate with the physicians of the hospital. Under such circumstances unpleasant difficulties rarely arise, and it is significant that damage to property and person has practically never occurred through a patient discharged from a hospital and protected by the after-care department.

We may state from experience, then, that there is really no cause for fear. An objection offered to employing such a discharged patient is that he is likely to have a recurrence, and thus cause inconvenience by vacating his position. It is true that a recurrence is to be expected, but if we consider the average length of remissions and the average time that various positions are held, I believe it will be found that this objection is not very important.

I think it may be rightly said that the attitude of suspicion, fear and avoidance toward the discharged recovered patient is unjustifiable. It is not only unkind and unfair, but it has an injurious effect on the individual, and it is opposed to the higher doctrines of humanity and to the spirit of mental hygiene. Especially does it conflict with the efforts of the mental hygienist, in that the stigma which the term insanity, and all things related thereto, bears keeps many from visiting a mental clinic. Thus, aid, expert advice and treatment at the logical time, that is, early in the disease, is not obtained. It further tends to keep recovered patients from reporting for fear that it will become known that visits are being made to an institution for the insane.

The attitude that is advocated for the public is open-mindedness and reasonable desire to obtain reliable information when in doubt. A person discharged as recovered should be accepted as any other member of society—on his face value. But just as one may believe in a man's honesty by his appearance, before giving him credit his record is looked up; so should one do the same before crediting the recovered patient. And as such agencies as Bradstreet's and Dun's are established to furnish this information concerning one's financial credit, so the hospital or psychiatrist is prepared to give expert advice as to the patient's mental credit. And the hospital physicians are only too anxious to be helpful in this regard, for they realize that prejudice will then be superseded by knowledge. There should be a close coöperation between the hospitals and the public, for the hospitals are maintained by the public for the public, and not alone for those confined, but also for the discharged patient, and the patient's friend and employer. With this reliance of the public on the hospital, the patient will learn that the hospital offers him a great service after release. This will bring him closer to it, and will help in warding off the danger of a second attack of illness.

In Germany agencies have been established to help the discharged patients, called "Irrenshilfvereins." These are organized to help the patient outside the hospital, to educate him, his family and friends, and to aid him in obtaining work. In this country this work is being accomplished by the after-care departments of

the hospitals through the medical social service staffs. These efforts do much to bring about the necessary intercourse of institution, patient and public.

The attitude, then, that is desired is that of fair play; that the public seek information from the experts as the occasion arises rather than avoid the problems by drawing back. This attitude of dependence upon those of experience will, likewise, lead to avoidance of mistakes in the other direction, as, for instance, marriage with a recovered victim of insanity, which is contrary to the basic principles of eugenics. It will avoid the overlooking of symptoms of importance, whereby the patient suffers from the charitable interpretation of his associates.

Titchener has said that the common-sense view of today was a scientific hypothesis of yesterday; and the present slowly developed attitude of those familiar with the treatment and handling of the insane will, no doubt, become the attitude of the public in the future, just as has happened with tuberculosis and typhoid fever.

II.

THE RELATION OF SYPHILIS TO MENTAL DISEASE.*

BY SAMUEL T. ORTON, A.M., M.D., PHILADELPHIA,

Clinical Director and Pathologist, Pennsylvania Hospital for the Insane, Philadelphia.

OF the causes operating to produce mental disease, there is one which in most discussions in the lay press or in public meetings is either entirely avoided or vaguely suggested under the name of "blood poisoning" or a "blood disease." This is the venereal disease—syphilis,—and not only is its connection to the production of insanity one of the most direct and well-established, but it is also a factor of no mean numerical importance, as shown by the fact that about one-tenth of all cases of insanity can be attributed to it.

Before considering the relation of syphilis to insanity, let us look for a moment at the disease itself. Syphilis is not a disease of recent origin, or even of recent recognition. Over 200 years before the Christian era the Chinese Emperor Hoang-ty caused a collection to be made of Chinese documents bearing on medical subjects, and in the translation of that series we find descriptions which establish without much question the fact that syphilis existed among the Chinese at that time. Not only are the descriptions of the first two stages of the disease apt, but the connection between them was recognized, and the use of mercury was advised as treatment,—a remedy which until very recently was the chief one, and that even now is considered as a valuable adjunct to the newer methods. Hebraic, Greek and Roman writings also refer to diseases which were probably of the venereal type, and it is probable that some of the descriptions of leprosy in those writings refer to syphilis. Although the word leprosy still carries to the lay mind considerable fear, the physician of today knows it as a disease of relatively low contagiousness, which would scarcely have aroused the fear of infection or stimulated the rigid rules of isolation so patent in the writings referred to, while syphilis might easily have filled these requirements.

Shortly after the return of Columbus and his sailors from their first trip to America, Spain and Italy were visited by a scourge of syphilis which occurred at the time of a military expedition led by Charles the Eighth of France against Naples, and the scattering of the troops on their return from this expedition disseminated the disease widely throughout eastern Europe. This epidemic, called the Neapolitan outbreak, was characterized by marked contagiousness, great severity of symptoms, and a relatively high mortality, and these considerations have led many syphilographers to conclude that the disease was new in Europe, and had been brought from America by the sailors of Columbus' expedition. That the disease probably existed on this side of the Atlantic before 1492, is suggested by the findings reported by a number of observers on the traces of disease in bones of pre-Columbian source. The writer had the opportunity some years ago, while a member of an exploration party of the Ohio State Archeological and Historical Society, to obtain some diseased bones from the burial plots of the mound builders of the Ohio Valley, which undoubtedly antedate Columbus, and while their great age and partial disintegration precluded a positive diagnosis, the changes were such as to be entirely consistent with the results of syphilitic bone disease, and hardly to be expected from other bone diseases with which we are familiar today. Similar findings have been reported from Europe, however, in skeletons which are also undoubtedly pre-Columbian, and this fact, together with the documentary evidence already mentioned, seems to give evidence that the disease was present on both sides of the Atlantic before the voyage of discovery. The transplantation of a new strain of the virus of American origin into Europe might account for the severity of the Neapolitan outbreak, even if syphilis had been present in Europe for a long period. This variation in the potency of strains of the same disease transplanted to new localities, is recognized in other infectious diseases.

Syphilis has been comparatively slow in yielding its secrets to the modern investigator, and it is only within recent years that the causative organism has been known. Schaudinn reported the finding of the germ in 1905, and two years later Wassermann perfected a test by which we can recognize the presence of syphilis in an individual, whether or not there are any outward signs or symptoms, and these two discoveries

* Read before the Conference of the Massachusetts Society for Mental Hygiene, Ford Hall, Boston, Nov. 18, 1915.

have led to the accumulation of many important facts concerning the disease.

The germ is a very minute spiral form—the Treponema pallidum—which belongs to a group of organisms slightly higher in the scale of life than the bacteria. Seen under the higher powers of the microscope, it has 10 to 12 spiral twists in its length, not unlike a corkscrew. It can be grown outside the body, as demonstrated by Dr. Noguchi of the Rockefeller Institute for Medical Research, but only with considerable difficulty, and not on substances usually employed for cultivating bacteria, and stains not at all or only very faintly with the ordinary dyes used for microscopic preparations. The Wassermann test is a biochemical reaction carried out on the blood serum of a patient by means of sera prepared in experimental animals, and while it falls far short of that absolutism which the layman, and even many professional men, is wont to accredit to a laboratory measure, yet it has proven one of the most potent and dependable diagnostic measures at our command today. The test is rather an intricate one, but perhaps I can give you some idea of its mechanization. When the red blood corpuscles of one animal, a sheep, for instance, are injected into another, such as the rabbit, the rabbit's blood serum gradually acquires the power of dissolving sheep's corpuscles when mixed with them in a test tube. This power is lost, however, if the rabbit's blood be heated to a certain temperature, but may be replaced by the addition of a little unheated serum from another animal, usually the guinea-pig. This substance which is lost we technically call complement, and it may be likened to the coupling pin, which connects an engine with the first car of the train it is drawing. This "coupling pin" is destroyed by heating, but a new one may be procured by the addition of fresh serum, and solution or lack of solution of the sheep's corpuscles when mixed with the heated rabbit's serum, tells whether or not it is present. This complement can be used up, however, by other combinations than the rabbit's serum, and the sheep's corpuscles. The blood serum of a syphilitic patient contains a substance which uses complement to combine with substances which can be extracted from syphilitic organs. Thus we have here two trains, *i.e.* rabbit's serum and sheep's corpuscles as one, and serum from the patient and extract of syphilitic liver as the other, with only one coupling pin, the fresh serum from the guinea-pig, which is added in making the test. If the patient has syphilis, the active substance in his blood uses up the complement and none is left to aid the rabbit's serum in dissolving the sheep's corpuscles. If, however, the patient does not have syphilis, the complement is not used, and shows itself by aiding the solution.

The disease itself is generally separated for description into the two types of acquired and hereditary. In both forms the severity of the symptoms varies greatly in different cases, and may be so slight that little attention is paid them. In the majority of cases of acquired syphilis, however, the refractory local sore of the primary stage, and the general skin eruption, sore throat and falling hair of the secondary stage, are marked enough so that they are not apt to be overlooked. Following the secondary stage, however, there is almost always a period of apparent cure, when there are no outward signs nor symptoms of the disease, and it is, to all outward appearances, completely cured. It has long been known, however, that this was only an apparent cure, and that later the disease might show itself by a renewed attack on almost any part of the body. In some few cases of very severe infection, even when carefully treated, the disease is of a more or less progressive type, but characteristically, in treated or untreated cases, there follows, after the secondary eruption has disappeared, this dormant or latent period, bringing with it a false sense of security and a belief that a cure has taken place. Until the advent of the Wassermann reaction, the greatest uncertainty surrounded the question of cure, and frequently in cases which had been considered as cured, the disease reappeared, often after a period of years, as the late or so-called, tertiary stage. The Wassermann reaction has, however, gone far toward eradicating this uncertainty, and we now are able to determine whether the disease is still present in its latent form, and is, hence, a potent source of danger to the individual, or whether a cure has probably been accomplished. The data which are accumulating show very clearly that in a large proportion of cases, the disappearance of symptoms after the secondary stage is not to be considered as evidence of cure, and that unless treatment is continued conscientiously there is still the possibility, if not even the probability, of a later reappearance. One case has been recorded in which the Wassermann reaction was found consistently positive thirty years after the original infection. The hereditary type is that which occurs in the children of syphilitic parents, and its manifestations cover a rather wide range, dependent on the stage and severity of the infection in the parents. When the disease has been recently acquired and is in an active stage in the parents, the children are apt to be born dead or to die soon after birth, or if they survive may carry marked physical deformities through life. In other instances the disease makes its appearance during the early weeks of the child's life, or, apparently, it may here also lie dormant for years, as in the acquired variety. Let me again emphasize this tendency of the disease to remain alive and potent in the body without showing outward signs. Syphilis shows this tendency as well as, if not better than, any other disease we know, and while it is probably true that in this stage the danger of spread of the contagion to others is relatively slight, yet the individual is harboring a source of danger to himself, which can in the majority of cases, at least, be removed by conscientious

treatment accurately controlled by the Wassermann reaction.

The chief source of infection with syphilis is immorality, and this is the reason, of course, that its discussion outside of medical circles has been so curtailed. There are, however, other channels of infection which must be considered. The germs of syphilis do not live long outside the body, but in active cases of the disease, especially in the secondary stage, they are given off in enormous numbers by the moist surfaces of the body, such as the mouth, nose, throat, etc., and personal contact with such a case is, of course, not necessary, for contagion, as the germs may be readily carried from one person to another by such means as the common drinking cup, the public towel, or insufficiently cleaned soda water glasses, etc. Physicians, surgeons, dentists and nurses are also in some danger of infection through unavoidable contact with syphilitic patients. One epidemic of seven or eight cases in Philadelphia has been traced to kissing games. In crowded tenement sections the lack of personal hygiene often results in spread of the disease, and it is said that in parts of Russia where one bowl and spoon are used in common by the whole family, that once one member contracts the disease the rest of the family is practically certain to become infected.

When we come to consider the types of insanity directly caused by syphilis, we find that there are three fairly distinct classes: 1, General paresis; 2, cerebrospinal syphilis; and 3, syphilitic endarteritis of the cerebral vessels.

General paresis or general paralysis of the insane is now considered as a direct result of syphilitic infection. On looking back over the history of general paresis for the past twenty years we find that there has been a great controversy as to whether or not all cases, or even any cases, of general paresis could be considered as due to syphilis. The reason for this discussion lies, first, in the fact that the changes found in the brain are of a little different type than those produced by other stages of the disease and, second, that the symptoms of general paralysis do not, as a rule, develop until five to fifteen years after the syphilitic infection and that generally this period is free from other obvious symptoms of the disease. It is not strange then that many writers formerly questioned the rôle played by syphilis in the causation of general paralysis. The Wassermann reaction is positive in the blood of cases of general paralysis, however, in from 95 to 100% of cases, and not only this, but it is also found positive in an equally great percentage of cases in the cerebrospinal fluid. These results are striking, and yet we know that the Wassermann reaction is positive in leprosy, and may be so in scarlet fever and a small number of other diseases, so that on the data of this reaction alone it could not be definitely stated that we were not dealing with some other disease which gave rise to a positive result. Conclusive evidence was, however, forthcoming in 1913, by the work of Moore and Noguchi, who were able to demonstrate the treponema pallidum—the causative organism of syphilis—in stained microscopic preparations of the brains of general paralysis cases in 24% of their series. This observation has been substantiated by many observers both here and abroad, and while it has not proved possible as yet to find the treponemata in every case, yet when we consider the technical difficulties to be overcome, I think we cannot avoid the conculsion that general paralysis must be considered as simply another form of expression of syphilis.

In the typical cases of general paralysis following from five to fifteen years after the syphilitic infection, come minor losses of judgment, frequently in business, little eccentricities, slight changes in personal habits and changes in relation to friends or the environment and, with these, various signs of alteration in the nervous control of the muscles, which can be easily determined on examination. Gradually these symptoms become aggravated, and delusions of great personal wealth or power, and a sense of great bodily well-being develop, followed by a marked loss in judgment, memory and general intelligence, resulting in a stage of deep dementia, where the patient is unable to care for himself and becomes a helpless bed-ridden charge on those into whose care he has been given. In many cases remissions occur which look to the casual observer like complete cures, but neurological and serological examinations will reveal residual symptoms, and later the disease will reappear, and probably every case ultimately goes down hill, and while the length of life after the onset varies greatly, the majority die within from two to five years after the first mental symptoms appear. It has been noted that there is a great variation in the proportion of cases of this disease found in various hospitals. This is probably accounted for in part at least by the type of population from which they draw. The writer has analyzed the admissions for ten years to one of the state hospitals in Massachusetts, including over 4700 cases of insanity, and found 9.5%, or something over 450 cases, were diagnosed as general paralysis. That this figure is fairly accurate may be seen by the fact that it corresponds fairly closely with the percentage found in all the State Hospitals in New York for one year.

Cerebrospinal syphilis, the second type of mental disease, is numerically of less importance. In it the disease attacks localized areas of the coverings of the brain or the supportive tissues surrounding the blood vessels, and often gives more symptoms of a physical than mental type, such as paralysis of special muscle groups, blindness, deafness, etc.

Cerebral syphilitic endarteritis is an inflammation of the lining of the blood vessels carrying blood to the brain, resulting in partial or complete blocking of their channels and consequent partial or complete starvation of

the parts of the brain involved. Let me quote the facts of a case of this type here: A young man born of American parents passed through the Brookline schools, and at the age of seventeen started into business. By the time he was twenty-one he was assistant business manager of the firm where he was employed and was doing very well. He left this position to enlist in the army at the time of the Spanish War and came back infected with syphilis. A year and a half later he had a paralytic stroke, and at about the same time his associates in business noticed slight errors in judgment and slight lapses in memory. Following the stroke, and in spite of active treatment, symptom after symptom, pointing to disease of the brain appeared, marked loss of memory, difficulty in speaking, loss of vision in one side of each eye, etc., and in two years he was brought to a state hospital, where he lived for six years as a helpless, hopeless wreck, with no sign of mentality left. He could not repeat his name and recognized it only part of the time. He had to be fed and dressed and cared for like a baby. An autopsy showed that several large vessels feeding certain parts of the brain had become plugged by the syphilitic inflammation and the brain substance of these parts had disappeared.

Aside from these three frank types of insanity caused by syphilis, there are probably many other diseases, both of physical and mental nature, which are caused by or influenced for the worse by syphilis, of which we are gradually gaining evidence, but which cannot yet be definitely outlined. We know that a great variety of physical deformities and some mental defects can be directly traced to hereditary syphilis, and it is possible that other types of imbecility and feeble-mindedness may be dependent on this condition, either directly, or by reason of its general effect on the body during the developmental period, and that in the acquired form also it may play a greater rôle than we yet realize as a contributing factor in persons predisposed to mental disease.

As in other diseases, two lines of combating the evil lie open to us—treatment and prevention.

Within the last few years a new remedy has been given to us by the late Professor Ehrlich, which promises to be of inestimable value in treatment. The earlier reports of treatment by this drug—salvarsan—were probably a little too rosy on account of the almost marvelous disappearance of the lesions of syphilis, which had proved refractory and indolent to other methods and which were taken as a sign of complete cure. The accumulated evidence does not substantiate these earlier reports as to the completeness of the cure, but does show that we have in this remedy a most potent means of reducing enormously the number of treponemata present in an active case, and hence in reducing to an equal degree the danger of the spread of the contagion from that particular focus, and that by careful and consistent observation and treatment an ultimate cure may be expected in the majority of cases at least. Regular intravenous injections of salvarsan and the older mercurial treatment have little influence on general paralysis. But quite recently a new method of treatment by injection of blood serum containing salvarsan into the spinal column, or through the skull and beneath the membranes covering the brain has been receiving a great deal of attention, and some very encouraging results have been published. The cases are rather few in number, however, and no great time has elapsed since the treatment, and when we consider the tendency to remissions and relapse in this disease, it will be seen that we must go rather slowly in expecting too great results from this method.

Prevention must include education, and to be effective it would seem that the cloak of obscurity wrapped about syphilis by the lay press and in public discussion must be lifted, and the disease recognized and discussed under its own name, and with a freedom heretofore avoided. Is not the fact that it causes 10% of all cases of insanity (to say nothing of many physical conditions) sufficient warrant to set aside false modesty and face the problem openly? In some states syphilis and gonorrhea are now made reportable, like the other contagious diseases, and this will in time doubtless give us data for a better attack.

Legislative measures and personal care against such sources of contagion as the public drinking cup and common towel, will aid in reducing the innocent infections by the disease, but no scheme of prevention will be of much avail that does not recognize that prostitution is the great spreading ground of the disease, and does not attack this problem openly and fearlessly.

III.

AFTER-CARE OF MENTAL PATIENTS.*

BY HENRY P. FROST, M.D., DORCHESTER, MASS.

Superintendent Boston State Hospital, Dorchester Center, Mass.

AFTER-CARE of discharged hospital patients was the first effective form of social service undertaken in the field of mental medicine after the accomplishment of proper and reasonably prompt hospital treatment, which replaced almshouse care and other kinds of neglect extending over a long period. Giving assistance and encouragement to indigent and friendless persons dismissed from the hospitals as recovered or improved, which should enable them to get a fresh start in the outside world, presented itself as a practical and much needed philanthropy to many minds before its first formal and organized establishment in this country by the New York Charities Aid Association in 1906.

Dr. William Mabon of New York, in a paper

* Read before the Conference of the Massachusetts Society for Mental Hygiene, Ford Hall, Boston, Nov. 18, 1915.

published in 1907, reviewed the earlier efforts in this direction of Dr. Wise of New York, Dr. Dewey of Illinois, Dr. Stedman of Massachusetts, and others, as individuals or as members of committees appointed by interested organizations, and relates the whole history of the movement from its inception in the early nineties until it crystallized into action under the wise direction of Miss Louisa Lee Schuyler, a leading spirit in the New York organization referred to.

Begun on humanitarian grounds, for the benefit of individuals, after-care was early recognized to be an important item in any comprehensive program for prevention of mental disease, for, unfortunately, mental disease is very prone to recur, and if after-care of recovered patients can avert even a small proportion of subsequent attacks, its value is demonstrated. Utilized, as it should be, to dissuade recovered patients from marriage, and, in the case of the married, from further child rearing, it attacks the problem of mental disease at the best possible point—its source; and through safeguarding other members of families already invaded and their connections and friends, as is in a manner possible, the influence for good of such a system may well be incalculable.

In Massachusetts a wise provision in the insanity law, which permitted the discharge of patients on six months' probation, and which had for several years been widely used by the hospitals, was extremely helpful when it came to organizing systematic supervision of discharged patients, and their assistance. This trial period covers the most critical time, both as regards the stability of the patient's mental condition and the difficulties in the way of social and financial rehabilitation, and the facility with which further hospital treatment may be obtained at will, or in case of need be enforced with ample authority, tends to simplify many of the problems which arise in this extra-mural work of the hospitals, and gives it an effectiveness far greater than if it were dependent upon voluntary coöperation alone, like the social work of the general hospital.

In France and England, where this matter of after-care received attention earlier than in this country, it has been carried on by volunteer societies, supplying funds and workers and cooperating with hospital officials. To some extent the same plan has been adopted in this country, such organizations as the State Charities Aid Association in New York and the Societies for Mental Hygiene in various states taking it up as a part of their program, but in general it has been thought that this is work which can best be done directly by the hospitals through the agency of trained social workers, devoting their whole time to this and other forms of social work, articulating it closely with the intramural treatment and making the record of each case a part of the hospital case record.

This is the method followed in our state, where, under the stimulus of the State Board of Insanity, which has been keenly interested in developing this phase of hospital work, each institution caring for the insane and the feeble-minded has its social worker or its corps of workers assisting the medical staff in their dealing with patients and their families for the settlement of social problems both before and after discharge,—securing data for social and medical history of cases admitted, inspecting homes and employment possibilities previous to discharge of patients, maintaining supervision for after-care and taking part in the work of the out-patient clinics where these are conducted.

The official status which this plan gives to after-care of our patients has certain advantages and also some drawbacks. The visitor enters a home with accurate knowledge of the history of the case, with the additional advantage of a personal acquaintance with the patient, obtained at the hospital, and in many cases already known to the family through her interest shown on behalf of the patient at an earlier stage of the treatment, perhaps having to her credit the helpful solution of some domestic problem brought about by the illness of the member now returning to the family circle. Furthermore, she is trained and experienced, equally at home in the hospital ward, the wage earner's tenement or the employment office, accustomed to contact with mental derangement, and possessing the point of view of the medical officers whose agent she is in this work.

On the other hand, she may appear to the former patient or to his family as an official spy, a representative of an organization which has wrought injustice by confining him in an institution—for not all recovered patients have complete insight regarding their illness—and her presence may be resented as a visualized threat of further confinement. This is one disadvantage that confronts the hospital social worker. Then again she is but one—or let us say two or three—where perhaps a dozen would be engaged were it not for difficulties connected with the budget; and finally—also for fiscal reasons—her resources for giving material aid are sharply circumscribed. Therefore, to make the after-care effort effective, to even approach in realization the widespreading possibilities for good which it clearly opens to our view, the coöperation and assistance of the community organizations for relief and social welfare are necessary; and an important function of our social workers is to connect with the proper agency and in this way secure continuance of the supervision in cases requiring prolonged attention, and also in cases where particular needs of the patient or the family can best be met by this method of specialization. In addition, though, to this extension of official or semi-official aid, there is great need for the help of individuals. The best possible help and encouragement that any person in trouble or distress can have is that which comes from a friend. Therefore, the hospital's task in after-care is most satisfactorily

accomplished in those cases in which it is possible to interest and suitably instruct friends already existent, or else to find and make for the patients new friends who will extend a helping hand to them.

For the individual patient this is possible in a variety of ways, notably through church and neighborhood affiliations, through the family physician, the employer or the fellow employee. For the group, such expositions of the work and the need as we are now attending should operate to make friends and helpers. A better understanding on the part of the public of the nature of mental disorders, their causes, their course and results, will lead to a different attitude toward the returned patient and a lessening of the distrust with which he is habitually regarded and which is one of his heaviest handicaps and chief causes of discouragement and failure. I hope I may be wrong, but I venture the belief that no large proportion of the householders present would willingly receive into their domestic service on our recommendation recovered patients, but I am confident that you would do so after visiting the convalescent wards of a mental hospital, or if you could see even the unrecovered patients, of whom several hundred are living contentedly in family care under supervision of the state.

So much for general principles and plea for interest. Specifically, what are the needs of a recovered patient,—in what way do our organizations for after-care meet these needs, and what is the measure of the work they are doing? First, we must consider that a mental illness is, in general, a prolonged illness, that it involves a serious outlay which is often unwisely borne by the family in an effort to avoid treatment in a public hospital, owing to the feeling that a stigma is thereby incurred, and also to a still existent prejudice—founded on ignorance of what the hospitals really are. Or if but little actual expense has been incurred, the visitation of mental disease has curtailed the family income,—often obliterated it. As a result, when, after months of treatment, recovery finally takes place, the prospect that faces the patient is return to a world that has for him sadly changed. He has to find employment anew, pay off debts, reestablish his home. Still lacking strength, perhaps, with confidence impaired and sensitiveness increased, he has to face the most difficult situation of his life, while as yet but ill prepared for even ordinary trials.

Or it may be that the difficulty to be overcome on returning home is less financial than one of temperament or of temptation to be resisted. The home may have been unhappy, the neighborhood uncongenial, habits detrimental. The case may be that of a wife and mother whose problem is to resume the care of her household, to get her children back from temporary homes, or to remedy conditions due to their faulty supervision during her illness, or to eliminate a housekeeper or relative installed in her place; or the patient may be one without home or family as well as without employment; and any of these may, after mental recovery, still be in need of medical care, of nursing, diet, of a country vacation. All of them are certainly in need of advice based, not only on knowledge of the case itself, but of the surrounding conditions—hence advice which the hospital physician cannot supply unaided, and which would, in most cases, be little heeded in any event unless backed up with supervision and reiteration, and, finally, they need encouragement, and in many instances substantial aid of one sort or another.

Another general need is that these discharged patients be kept in close and friendly touch with the hospital and in readiness to apply there again at any time for counsel in the event of threatening symptoms recurring,—a disposition which is greatly encouraged by the intimate contact maintained through after-care supervision.

An attempt is made by our social workers to meet these needs, and many others which I have not specified, by first investigating the homes and the conditions to which it is proposed that a patient shall return, or by finding a home for those without one, and creating conditions which promise well and getting assurance of employment or of suitable support, as well as of reasonable supervision and coöperation in the after-care by relatives or friends, or from any available source.

Upon being dismissed from the hospital on trial a definite understanding is had with the patient and with his sponsor, the arrangement varying according to circumstances, but in general an early report in person at the hospital is exacted, this to be repeated at intervals, usually of one month. A patient keeping such an agreement, and evidently doing well, is visited at home but seldom, perhaps only once, and sometimes not at all where conditions are known to be satisfactory and the family coöperative, but failure to report brings about a visit from the social worker, who then continues the home supervision.

This combination of home and hospital visits enables the staff to supervise a large number of patients during the trial visit, without requiring a larger force of visitors than it is practicable to have, and while it may be truly said that actual conditions are best seen in the home on unannounced visits, the return to the hospital has the advantage of bringing the patient actually before the doctor for observation, and if judiciously mixed with home visits it is the most satisfactory plan. Unfortunately, it is not so feasible in the other hospital districts as it is here in Boston, but the hospitals serving the more scattered districts have now provided for this kind of supervision by establishing outpatient clinics at convenient points in their territory, where the physicians attend at stated times for the purpose of seeing former patients, as well as new cases presenting. I may speak here of a very helpful relation established through

the custom of having discharged patients return to the hospital. They usually include the wards in their visit, greet the friends they left behind, encourage these by demonstration of their own recovery and well-being, and in not a few cases assist others in arrangements for discharge and employment, etc.

Former patients often continue outside the friendship formed at the hospital, and thus little social centres of mutual helpfulness are created. A men's club composed of recovered patients who need help in their fight against the drink habit meets regularly at the Psychopathic Hospital and has proved valuable to many members, and it is a frequent and pleasing occurrence in all the hospitals that former patients attend the dances and other social gatherings.

The technique of the home visitor cannot well be described in detail, being so diversified to fit the wide range of conditions encountered. It is sufficiently indicated in what I have already said about the adjustment of the environment, instruction in bodily and mental hygiene and securing of material aid to the extent possible.

The annual discharges from the public hospitals for the insane in this state are, in round figures, 2,000. A very large proportion of these patients are supervised for a period of six months, and many for longer periods, in the ways described,—not successfully in all cases by any means, but assuredly with a benefit to individuals and to the community, not to be measured by the cost of the service or by any statistics that might be compiled to show it.

(Series to be continued.)

THE ROENTGENOSCOPIC EXAMINATION OF THE STOMACH AND DUODENUM. A REPORT BASED ON THE FINDINGS IN 730 CASES, EXAMINED DURING THE YEAR 1914.*

BY GEORGE W. HOLMES, M.D., BOSTON.

THE value of the roentgen ray as an aid to diagnosis in disease of the gastro-intestinal tract has been fairly well established, and many valuable contributions to the literature on the subject have appeared during the past five years.

The objection to its general use, especially in hospital clinics, has been largely one of expense.

The method described in this report has been employed at the Massachusetts General Hospital for the past two years. Results obtained by it, we believe, are at least as good as those obtained by more expensive methods, and it has made possible the use of this valuable aid to diagnosis in all classes of patients.

During the year 1914, 730 roentgen examinations of the gastro-intestinal tract were made. Of these, 209 show evidence of organic disease of the stomach or duodenum; 144 were operated upon and the findings proven or corrected. The following is an analysis of the findings in the proven cases.

* From the Roentgen Department of the Massachusetts General Hospital.

ANALYSIS OF THE ROENTGEN FINDINGS.

A diagnosis of *duodenal ulcer* or a question of duodenal ulcer was made sixty-five times. Of these, 34 were operated upon and an ulcer found. Seven were operated upon and no ulcer found. The remainder either refused operation, or were treated medically.

Of the cases with negative ulcer findings, three were adhesions, two were chronic appendix, and two negative. In only one of these cases was the duodenum opened. There were four cases in which an ulcer was found which was not located by the roentgen examination. Of these, one was thought to be a gastric ulcer, one was adhesions, probably from a healed ulcer, in one the examination was not complete, and one was a small bleeding ulcer which was not found until the duodenum was opened.

Gastric ulcer was suspected or diagnosed 47 times during the year. Of these, 18 were operated on and found to be ulcer. Three were operated on and no ulcer found in the stomach, but the stomach was not opened. The remaining 26 were not proven. In no case was an ulcer found where a lesion had not been demonstrated.

In the three cases in which an ulcer of the stomach was not found at operation, in one the deformity was due to adhesions, and one showed no pathology. The error was probably due to the presence of spasm, or there may have been a small ulcer present, as the stomach was not opened. In one case, an ulcer on the lesser curvature, involving the pylorus, with much dilatation of the stomach, was thought to be a duodenal ulcer.

The roentgen findings suggested *malignant disease* of the stomach in 97 cases examined. Of these, 28 were operated upon and found to be malignant. Five were operated upon and no evidence of malignant disease of the stomach found. Of the five negative cases the findings at operation were malignant disease of the gall-bladder in one, one was adhesions, and in three the findings were negative. One case of malignant disease was found where no lesion was demonstrated, although the fluoroscopic findings were suggestive in this case.

In 18 cases of *adhesions*, abnormal peristalsis was present nine times, filling defects seven times, and 6-hour residue seven times. The conclusions were correct or partly so in all but one case, which was diagnosed malignant.

Seventeen cases of *gall bladder disease* (stones or inflammation of the gall-bladder) show positive findings in two, very suggestive findings in eight, one was diagnosed as duodenal ulcer, one as malignant disease, and in five the findings were negative. Abnormal per-

istalsis was present in 10 cases, filling defects in four, and a six-hour residue in seven. In about half of the cases the stomach was displaced to the right. Only two showed positive evidence of gall-stones. We have not been able to show the presence of stones in the large percentage of cases reported by other writers. This may be due in part to the type of patient studied.

Chronic Appendix. Of the 16 cases in which the stomach was examined, seven showed abnormal peristalsis, five filling defects probably due to spasm, and three six-hour residue. The conclusions were positive in four, suggestive in five, and wrong or negative in seven.

The roentgen findings in 12 negative cases were, abnormal peristalsis nine, residue two, filling defects four. The conclusions were correct in seven and incorrect in five. Of the five cases of error, cancer was suspected three times, gastric ulcer once, and duodenal ulcer once. In one case only was the stomach opened. This series of twelve cases is of interest, as it offers a chance to compare the value of the roentgen findings with those obtained by other methods. It may be assumed that the clinical findings were positive in seven cases where the roentgen findings were negative, and which showed no lesion at operation. Also for the purpose of comparison, we will assume that the clinical findings were negative in the five cases in which the roentgen findings were positive. The results are seven to five in favor of the latter.

Another interesting conclusion may be drawn from this group, namely, the negative roentgen findings are usually correct, but positive findings should be corroborated by clinical evidence.

ANALYSIS OF THE ROENTGEN FINDINGS.

Tabulation of cases operated upon from February, 1914-1915.

		Abnormal Peristalsis.	Residue.	Filling Defect.
Duodenal ulcer.....	34	31	23	32
Cancer	29	23	22	28
Gastric ulcer.....	18	18	17	18
Gall bladder.....	17	10	7	4
Chronic appendix...	16	7	3	5
Adhesions	18	9	7	7
Negative cases.....	12	9	2	2

Tabulation of cases continued.

	Roentgen Findings Correct in	
34 duodenal ulcer.....	29	87.8%
29 malignant	28	97.6
18 gastric ulcer	18	100
17 gall bladder.....	10	58.8
16 chronic appendix.....	9	56.2
18 adhesions	10	94
12 negative	9	64
144	113	82

DUODENAL ULCER.

While irregularity in the filling of the duodenal cap is probably the most constant finding in duodenal ulcer, occurring in 31 of the 34 cases in which an ulcer was found at operation, increase in the depth and vigor of the peristaltic wave is also quite constant, it being present in 27 cases. This finding may also occur in other conditions causing gastric irritation, such as adhesions, gall-stones and chronic appendix, but is less typical in form, the wave seldom showing much depth. The percentage in this series in which it occurred was 87 in duodenal ulcer to 58 in adhesions, gall-stones and chronic appendix, the conditions which most often cause deformity of the cap. Its absence in the presence of an atypical deformed cap is, therefore, of great help in forming correct conclusions. In other words, an abnormal cap with normal peristalsis is probably not ulcer.

Six-hour gastric stasis was present in 23 of the 34 cases, a fairly large percentage (73%); while in the other conditions causing deformity of the cap, residue was present in 58%. This finding is of further value, when the size of the residue is also considered, a large or medium residue being present in 50% of the duodenal cases and in only 17% of other conditions referred to.

GASTRIC ULCER.

Of the 18 cases operated on and proven to be gastric ulcer, in 10 the findings were sufficiently definite to make a positive diagnosis of ulcer. In eight the lesion was said to be probable ulcer, but malignant disease was not ruled out. All showed some irregularity in filling.

Seventeen showed six-hour stasis, nine showed lack of tone, and nine showed increased peristalsis. The nine cases where there was marked obstruction with dilatation and atony show sluggish or absent peristalsis.

The differential diagnosis between ulcer and cancer is often impossible, but the lesion in ulcer is usually less extensive and seldom annular; when located at the pylorus, stasis with dilatation is present early, peristalsis may be marked, which is rare in cancer.

MALIGNANT DISEASE.

In malignant disease, plates are of considerable additional value as they may bring out the mottled or finger-print appearance, described by Cole, and others. The cardiac end of the stomach may contain considerable growth and yet show no evidence of its presence upon a series of plates. In other words, the most positive finding,—irregularity of outline—is absent, and it is in these cases that errors are made on the negative side. But with careful fluoroscopic observations, particularly at the time the opaque meal is entering the stomach, such indirect findings, as delay at the cardia and irregular filling of the fundus, may be obtained and the diagnosis corrected. In the one case missed in this series, sufficient weight was not placed upon these findings, which were present. Fortunately in

this class of case, the tube findings were often quite definite.

It is fair to assume that of the 67 cases showing evidence of malignancy and which were not operated upon, some were not malignant, and that the diagnosis was corrected by the clinical finding. Therefore the greatest number of errors in this series has been on the positive side, which is the safe side. When there has been any great amount of doubt as to the findings, we have suggested malignant disease in these cases, feeling that it was the safe thing for the patient, and knowing that no radical treatment would be undertaken without corroborative clinical findings.

Can the roentgen examination replace the exploratory operation in malignant disease? We believe that in a certain number of advanced cases it can. Sixty-seven of the cases in this series were not operated upon. Some of these must be placed in this group. If there is no stasis and the roentgen findings are typical of an extensive lesion, we believe the clinician is justified in advising against operation.

The question also arises, "Do we miss the early case?" There is no evidence to prove that we do, yet we have very few cases in which a positive diagnosis was made where the growth was not too far advanced to be cured by operation. My belief is that these cases do not have sufficient symptoms to make them seek help until the lesions have become inoperable. This is especially true of hospital patients.

TECHNIC USED.

For the past year we have used the single opaque meal. The patient is allowed a glass of milk or a cup of coffee with a piece of toast at 7 a.m. He reports for examination at 10 a.m., at which time the stomach should be empty. A brief history is taken. This history is not taken with the object of combining it with the roentgen finding to make a diagnosis, but to give the examiner a chance to meet the patient and to conduct the examination in such a way that the greatest attention will be directed to those symptoms of which the patient complains. The opaque meal consists of 75 gm. of barium sulphate in 8 oz. of potato starch gruel. The stomach shadows will change in size with the amount of the opaque meal. The character of the peristalsis will also change somewhat with a different kind of meal. Therefore it is of importance that it be of standard size and composition. The patient takes the meal through a drinking tube while standing behind the fluoroscopic screen, and its passage through the esophagus and entrance into the stomach is noted.

The first swallow is taken with the patient in the oblique position, after which the anteroposterior position is assumed and the examination continued. In this way, the entire course of the esophagus is observed, the position of the stomach, and at times irregularity on the greater or lesser curvature. As the stomach fills, the shape and position of the barium column give us an indication of the muscular tone, and by palpation we may locate tender points or fixed areas.

Pressure on the normal stomach will often force the barium through the pylorus and show an outline of the sphincter and cap. In many cases the examination may be concluded at this time, but should any of the findings vary from the normal, or if there is difficulty in obtaining a good cap and sphincter, the examination is continued with the patient in the prone position. The stomach is observed at every possible angle and in all phases of peristalsis; changes with respiration and position are considered, and the examination continued until a normal outline of the stomach and duodenum is seen, or the impossibility of obtaining it proven. We have found that by placing the patient face downward or a little upon the right side, upon the table (tube under, small screen over back), it is possible to demonstrate the duodenum and pyloric sphincter in the great majority of cases. Any defect in outline which can be reproduced upon a radiographic plate can be seen upon the screen in some of the various positions and phases. Should a lesion be found, a plate is taken with the patient in the position which best demonstrates it. Also in certain cases, showing an atypical deformity, a series of plates is taken for more careful study of variation in density seen in the barium shadows.

The patient is next given a small carbohydrate meal and told to abstain from all food and drink for six hours, at which time he is to report for the second observation. This is essentially a test meal, therefore it should be constant in size and character. Abstinence from food during the six-hour period should also be maintained. Failure to observe this point has in some clinics discredited the value of the six-hour residue. The absence or presence of barium in the stomach is noted, also the position of the head of the barium column. The ileum, cecum, and that part of the colon which is filled, are observed and palpated for fixed or tender points.

A third observation is made at 10 a.m. the following day, at which time the position, outline and contents of the remainder of the colon are studied. At this time, it is often possible to see and study the appendix.

The examination is now finished, and definite conclusions can be made in the majority of cases. It may, however, be necessary to continue the observations for one or more days until the colon is empty, or to repeat the examination after giving atropine and bromide, as described by Carman. Also when the trouble seems to be in the lower gut, to administer an opaque enema under screen observations.

Atropine tends to relax spasm. A very difficult class of case is that showing atypical deformities of outline. In the majority the deformity is due to spasm or adhesions, or both.

It is in these cases that atropine is of value. The deformity may disappear or the amount of the six-hour residue may be affected.

We have not found it necessary to give a cathartic either before or after the examination except in patients who are habitually constipated, nor has there been a single case of injury to the patient either by exposure to the ray or from barium. The digestive tract, however, should be free of barium at the time of operation.

It is only fair to state that the cases tabulated in this series represent work done at a time when the technic was being built up, and that they contain errors which would now be avoided.

In conclusion, we wish to state our belief that the technic which has been used by us, and which, with slight modifications, is that used by Barclay and Carman, offers the best chance of obtaining correct roentgen findings with the least possible cost, and that in hospital clinics, at least, it is the method of choice.

THE INCIDENCE OF VISCEROPTOSIS.

BY I. H. LEVY, M.D., SYRACUSE, N.Y.,

Associate Professor of Clinical Medicine, College of Medicine, Syracuse University, Physician to the Hospital of Good Shepherd, Syracuse, N. Y.,

AND

J. L. KANTOR, M.D., SYRACUSE, N. Y.

AN examination of the literature shows that there is still considerable lack of unanimity concerning the etiology, frequency, and significance of visceroptosis. From our own study of the subject, we have come to agree with those who believe that visceroptosis is very frequently encountered, and that in a large majority of the cases it is congenital, or perhaps, better still, a predisposition to revert to a more primitive type. While acquired cases no doubt exist, they must form but a small percentage of the total. Faulty dress, corsets, repeated pregnancies, and rapid loss of weight play but a minor part, if any, in the etiology. We have frequently had occasion to examine multiparae, with relaxed abdominal walls, without finding any evidence of ptosis. The same is true following rapid loss of weight. We have encountered the condition in children of both sexes.

Apparently, we have not yet reached that stage of evolution in which our organs are ideally supported. Whereas, in the four-legged stage, the spine forms a satisfactory support for the viscera, in the upright position, on the other hand, it fails to perform this function properly. Ptosis, then, is a condition in which the organs sink to a lower level in the abdomen than we are in the habit of calling normal. Almost all the viscera, especially the stomach, tend to be long and narrow, and to conform to the general type of the body.

It is to be hoped that with the popularization of the x-ray for routine clinical examinations, and with the adoption of standard uniform methods of investigation, this subject will be adequately studied in the near future, and that many of its mooted questions will be satisfactorily answered.

It is our object, in this paper, to present as objectively as possible a brief statistical review of material that has been collected during the past four years.

Material and Methods. The ultimate basis for this study is a consecutive series of 1600 private patients complaining of "stomach trouble." It may be well to explain at the outset that by no means all of these individuals had actual lesions in the digestive tract. Many, as might be expected, were suffering from disturbances of other systems, such as the pulmonary, cardiorenal, nervous, etc. Of this total, 898 were subjected to a routine x-ray examination. This consisted, as far as the digestive tract is concerned, in the examination of the patient at intervals after the administration of an opaque meal. In the earlier cases, 50 gms. of bismuth carbonate was used, later 100 gms. of barium sulphate. This was mixed either with 300 gms. of cereal or 500 cc. of buttermilk. In accordance with the findings of others, our results were practically the same whichever combination was used.

The diagnosis of ptosis was made from the fluoroscopic and radiographic examinations. For the sake of more ready comparison with the results of others, we have grouped as ptotic those stomachs whose lowermost point (taken when filled as above described, the patient standing), reached more than 2.5 cm. (one inch) below a horizontal line joining the top of the iliac crests. All our calculations have been worked out on this basis. However, we feel that a more conservative and perhaps safer standard would be to diagnose ptosis only when the lowermost point of the gastric shadow reaches more than 5 cm. (2 inches) below the interiliac line. The smaller group, based on this reading, constitutes 72% of the larger, and our absolute figures may, in fact, be correspondingly excessive. We believe, however, that our *relative* findings would not be found materially changed, should they be worked out for the more severe cases only.

General Incidence. In our series of 898 x-ray cases, gastroptosis occurred 579 times, a general percentage incidence of 64.4. If the alternate reading be adopted (*i.e.* ptosis = descent of more than 5 cm.) the incidence is 417, a frequency of 46.4%.

Sex Incidence. Of 483 men examined, 279 were ptotic, or 57.7%; of 415 women examined, 301 were ptotic, or 72.5%.

Age Incidence. Of 464 individuals under 40 years, 322, or 69.3%, had ptosis. Of 434 individuals, 40 or over, 257, or 59.2%, had ptosis. These findings were generally taken to mean that ptotic individuals are more likely to complain of symptoms in youth than later in life.

Age and Sex. Of 231 men under 40, 151, or 65.3%, had ptosis. Of 252 men 40 years or over, 127, or 50.3%, had ptosis. Of 233 women under 40, 171, or 73.3%, had ptosis, whereas of 182 women 40 years or over, 130, or 71.4%, had ptosis. The above *general* findings as to age and sex distribution, therefore, hold true in each sub-group.

Married State (childbirth). Of 122 single women, 95, or 77.8%, had ptosis; of 293 married women, 206, or 70.3%, had ptosis. Ptosis is, therefore, not "caused" by childbirth.

Age and Married State. Of 104 single women under 40, 78, or 75.0%, had ptosis. Of 18 single women 40 years or over, 17 (all but one), or 94.4%, had ptosis! This is a rather striking finding, and is also the first sub-group in which the general rule of age incidence does not seem to apply. Possible explanations are: (1) elderly single women, being generally self-supporting, are subject to greater physical and nervous strain than married women of the same age; (2) this group may represent women who are "unfit" for marriage.

Of 129 married women under 40, 93, or 72%, had ptosis, whereas, of 164 married women 40 years or older, 113, or 68.9% had ptosis.

So far we have dealt only with gastroptosis. This is simply because of the ease with which the position of the stomach can be ascertained by the x-rays. Of course the condition may be shared in varying degrees by any of the viscera of the chest or abdomen. Thus coloptosis is practically always associated with gastroptosis; in many cases the heart, kidney, liver or spleen may also join in the general descent, or any of these may be involved without ptosis of the stomach. In order to furnish some idea of the incidence of the various combinations, our last 100 cases, respectively available for each special examination, were reviewed both from the clinical and the roentgenological standpoint. Cardioptosis was diagnosed roughly from a median position of the heart, as seen during the fluoroscopic examination. No attempt was made to refine the diagnosis according to the tenets of Schwartz. All kidneys, which could be palpated *standing*, were regarded as ptotic. A palpable spleen not otherwise explicable was regarded as ptotic. A liver edge visible below the iliac crests in the "standing" x-ray plate was similarly grouped.

Our results were as follows: 22% of the hearts seen fluoroscopically were of the median variety; 77% of the livers visible in the x-ray plate reached below the interiliac level; 30% of the kidneys which were felt for were actually palpated (in 3% of the cases both kidneys were felt); between 1 and 2% of the spleens were ptotic.

CONCLUSIONS.

1. In our x-ray series of 898 patients with digestive symptoms, the incidence of gastroptosis was 64.4%. Marked gastroptosis occurred in 46.4% of the cases.
2. The condition was only slightly more frequent in women than in men, the proportion being about 6 to 5.
3. The condition occurred more often in individuals under 40 years than in those 40 or over, and this relationship held for both sexes.
4. Gastroptosis was more frequent in single than in married women, in the proportion of about 13 to 12. In our series, practically all single women over 40 were ptotic.
5. In addition to gastroptosis, our cases had ptosis of other organs (demonstrable by x-ray or palpation) as follows: Liver 77%, right kidney 30%, heart 22%, both kidneys 3%, spleen 1 to 2%.
6. The above clinical study does not support the view that visceroptosis can be ascribed to improper garments, the occurrence of pregnancy, or to any other incidental cause. It seems that the condition is intimately related to the structure of the body, and probably arises from some congenital predisposition.
7. Ptosis is in itself not a disease. While under certain conditions in predisposed individuals, even the milder forms may cause sufficient suffering and discomfort to lead to a state of chronic invalidism, on the other hand, the most marked types need not necessarily prevent the affected organs from performing their proper functions.

Medical Progress.

REPORT ON DERMATOLOGY.

By John T. Bowen, M.D., Boston.

1. Dermatitis From Hair-dyes.
2. Foot and Mouth Disease in Man.
3. Occupational Injuries Due to Radium.
4. One Report on Radium in Skin Affections.
5. Human Serum and Blood in the Treatment of Psoriasis and other Skin Diseases.
6. Lessened Resistance of the Skin.

DERMATITIS FROM HAIR-DYES.

Bunch[1] relates several interesting experiences that he has lately had with dyes for the hair.

The dermatitis is usually preceded by severe itching, and affects naturally the scalp and face most frequently, an intense erythema appearing first, followed by vesiculation and oozing. In severe cases there is intense oedema, and the eyes are closed. Sometimes the inflammation may extend down the chest and back, remaining stationary for days, until the direct effects of the irritant have subsided, and soothing applications have been used. As in the case of other external irritants, the inflammation sometimes does not come until several applications have been made, a result nowadays attributed to anaphylaxis. Also people who have previously suffered from an acute dermatitis from whatever cause are more predisposed to poisoning from hair-dye. The old fashioned hair-dyes, such as lead acetate in rose-water with free sulphur, combinations with henna, walnut juices, etc., are less harmful, but less effective, than the instantaneous and for a time permanent dyes, such as paraphenylene diamene, and para-amidophenol. In spite of their dangers, these are the dyes used chiefly by professional coiffeurs, both because the dyeing is quickly accomplished, in the short space of three quarters of an hour, and because the variety of possible tints is very great. Also the staining from these dyes is very thorough, penetrating even to the medulla, while the vegetable dyes, such as henna, penetrate only a short distance. They are readily oxidisable even in the air, but to increase the rapidity of the coloring, an equal quantity of hydrogen peroxide is mixed with the dye ten minutes before application. After a thorough shampoo with soap and water, the mixture of dye and peroxide is applied with a brush and allowed to remain on the hair for half an hour, and the scalp is then shampooed once more. Even in people whose skin is not hypersensitive, the neglect or postponement of this second shampoo is often enough to start an acute dermatitis.

The poisonous substance in paraphenylene diamene is chinondichlordimin, a by-product of its oxidation, which has been proved experimentally to be a violent irritant, although it seems probable that other substances, produced during the oxidation, may also have well-marked irritant effects. The final non-irritating product from the oxidation is called Bandrowski's base, and this is what produces the darkening effect of the dye. The hydrogen peroxide used increases the tendency to inflammatory symptoms. If pure phenylene diamene is absorbed, rather severe systemic disturbances may be produced, such as giddiness, tinnitus, clonic and tonic contractions and gastro-intestinal symptoms.

The sale of paraphenylene diamene as a dye has been prohibited in Germany for nearly ten years, on account of its poisonous properties. Attempts have naturally been made to modify its toxic effects without impairing its powers of coloring, and the solution most frequently used in England is called "inecto," and another "koorpa." If any individual is susceptible, however, every dye containing paraphenylene diamene is toxic, and should be used with great care. The dye should never be left on for more than a half hour, and then the scalp thoroughly shampooed, and the skin, if stained, cleaned with vaseline. Also the dye should not be applied to hair that has been bleached less than three days before with peroxide, since peroxide acts as a mordant on the hair and increases the permeability. It is recommended in individuals who have a tendency to eczema, that a small patch of skin on the temple or back of the ear be painted with the dye, and covered with collodion, to determine if there is great susceptibility before the whole scalp is treated.

FOOT AND MOUTH DISEASE IN MAN.

Clough[2] relates the case of a medical student in whom the diagnosis of this affection, rare, at least in this country, seemed reasonably certain. After giving a short history of the occurrence of this disease in cattle, he asserts that most of the recorded cases in man usually run a mild course and have been observed by veterinarians and reported in foreign veterinary journals. It occurs in man in places where it is common among cattle. From 1887 to 1894, six hundred cases in man were officially reported in Germany. It is acquired either by direct contact with infected animals, or by the ingestion of infected milk, cream, cheese, or butter. There have been epidemics in entire families, from drinking infected milk, and children are especially susceptible. The sporadic cases are mostly in butchers, stablemen, milkers, and those who have to deal directly with diseased cattle. Usually the method of infection is through abrasions of the skin of the hands, or of the mucous membrane of the nose and mouth.

The symptoms in man are much like those in cattle. After an incubation of from two to ten days, there is fever, general malaise and prostration, and dryness and burning in the mouth. There is salivation and soreness, and after a few days vesicles appear on the mucous membranes of lips, cheeks, gums, tongue and on the pharynx, attended with soreness and swelling. With these appearances, the fever and constitutional symptoms usually subside. Soon the vesicles rupture, leaving superficial and very sensitive ulcers, which heal without leaving scars. There is great pain in eating and swallowing, and marked salivation. In the more severe cases similar vesicles appear on the skin of the hands and feet shortly after those in the mouth, the hands being most often affected, especially the finger-tips. When affecting the feet, it is usually the toes and heels that are involved. Occasionally there are vesicles on the genitals and about the nipples. In children especially, there may be serious systemic disturbances, and these cases may end fatally. The disease has been experimentally transmitted to calves by virus from a human subject.

Clough's case is that of a medical student of twenty, who had not been away from Baltimore for several months until the day before his illness. He had drunk no milk, but had used butter and cream. He was admitted to the hospital with intense sore throat, and tenderness, redness and swelling of the toes. On examination, it was found that his face was slightly swollen, the pharynx and tonsils strongly injected, as well as the posterior portion of the soft palate, and the cheeks especially along the line of closure of the teeth, where there were several small, slightly elevated, yellowish exudative areas. The posterior pharyngeal wall and the tonsils were covered with exudate, but there were no ulcerations. The toes were swollen as far back as the metatarso-phalangeal joints, the skin being tense, deep red and tender. There was some tingling and itching. Cultures for diphtheria were negative.

By the third day, there was much extension of the inflammatory process in the mouth, more of the cheeks and the margins of the tongue being affected. The mucous membrane was very red and sore and contained numerous small, slightly elevated, yellowish areas. There had developed marked salivation. Later all the visible mucous membrane had become affected and covered with minute vesicles or pustules. The lips were involved, showing redness, cracks, and several large flat pustules. There was no eruption on the skin of the face. On the fourth day papules appeared on the palms and backs of the hands, which later developed into vesicles and pustules, accompanied by marked itching, burning and tingling of both hands and feet. The toes were swollen and the seat of a few vesicles and hemorrhages. The eruption subsided after the seventh day, and was followed by complete desquamation. Two very good colored illustrations of the appearances of the mouth and hands accompany the article. The soreness and inflammation of the mouth began to subside by the tenth day. There was but slight rise in temperature. Attempts to inoculate the mouth of a dog from the exudate from the patient's mouth were unsuccessful.

The writer concludes that this picture corresponds to that of foot and mouth disease, and to no other; and as this disease was present at the time in cattle in this neighborhood, the diagnosis seems pretty certain. The treatment consisted of mouth washes of chlorate of potash and of permanganate of potash, and lotions to the skin to relieve the itching.

OCCUPATIONAL DISEASES DUE TO RADIUM.

Ordway,[3] formerly connected with the Cancer Commission of Harvard University, now Associate Professor of Medicine in the Albany Medical College, states that Walkhoff was the first to observe that radium rays produce burns of much the same nature as do the Röntgen rays. Experiments show that there is first a painful irritation, then inflammation lasting from ten to twenty days sets in. All preparations of radium produce this effect, which seems to be due chiefly to the alpha and delta rays; and this necessitates care in the handling of radium. These may be described as the rather acute reactions due to radium, and are apparently well known to physicists working with radio-active substances, as considerable experimental work has been done on animals by biologists. The purpose of Ordway's paper is to describe the more chronic symptoms and signs from a clinical point of view, and to emphasize their importance as occupational injuries.

Ordway, while investigating the subject of radium in Europe, had observed in London a sensory disturbance on the fingers of those handling radium, which had been first noticed by the difficulty in preparing eggs for breakfast in the English way. At the Radium Institute in London, the plan of rotation in service each month for the nurses handling the applicators had been adopted. In Vienna a case was observed in which the thumb, forefinger and middle finger of the left hand in one who had handled large quantities of radium showed severe lesions in the form of atrophy and obstinate ulcerations. From these observations a warning is deduced from their analogy to those of the Röntgen rays in which serious late effects, such as atrophy and cancer, may occur.

In the first year of the radium work at the Huntington Hospital, most of the applications were made by the physician in charge, in whom, a few weeks after beginning, there was noticed a slight sensory disturbance of the fingertips, especially on the ulnar side of the first phalanx of the thumb and the radial side of the terminal phalanges of the index and middle fingers of each hand, symptoms which came on gradually and consisted in a blunting of the sensibility of the fingertips, in paresthesia, and anesthesia. The objective symptoms were comparatively slight, consisting in a flattening of the natural ridges on the affected fingers, with thickening of the horny layer of the epidermis with scaling, failure of the tips of the fingers to resume their normal shape after pressure, and an up-growth of the cuticle at the base of, and underneath the nails. The nurses and assistants were warned at the outset, and told to make use of forceps for holding the active tubes of emanation. In spite of this, a certain amount of handling was unavoidable in changing the radium tubes for suitable filtration and protection. Nurses, assistants and members of the commission were later asked to describe carefully their subjective and objective symptoms. In these descriptions there was a striking similarity. In a few instances the injurious effects were due in most part to acute reactions; in two cases the effects were chronic, with superadded acute; while in two other cases there were no acute effects, but the changes were the slow and insidious effect of repeated exposures. Histological examina-

tion of a bit of skin excised from one of the cases yielded no important results. Various devices for protecting from these injurious effects were constructed, such as forceps or special vises for holding tubes, and screwing in or out of the tips and eyes; special applicators in the form of metal boxes, so that the active tubes may be added after the filtration and protection have been arranged, and the surface applicator is then slipped by forceps into a special rubber envelope and fastened with adhesive. Leaded gloves, fingers, etc., are clumsy and not readily worn. In the work of making routine applications of radium, there should be a rotation; and persons affected should be released, at least temporarily, from such work. As constitutional disturbances have been described by some writers, the body should be protected as far as possible by metal screens in form of boxes or plates about the radium, the workroom should be frequently ventilated, and periodic physical examinations of those working with this substance should be made.

Ordway's conclusions are as follows: "From the foregoing it is evident that marked changes may occur on the fingers of those engaged in routine work with radioactive substances. These local objective changes consist chiefly of flattening of the characteristic ridges, thickening and scaling of the superficial layers of the skin, and even atrophy and intractable ulceration. These lesions are usually slight compared with the marked subjective symptoms, such as paresthesia, anesthesia of varying degree, tenderness, throbbing and even pain. The persistence of such effects is noteworthy."

"Various general systemic symptoms, and also blood changes may be produced by exposure to radioactive substances. To avoid such local and general disturbance, special protective and preventive measures have been devised, and those engaged in routine handling of radioactive substances are particularly cautioned."

ONE REPORT ON RADIUM IN SKIN AFFECTIONS.

Halberstaedter,[4] in his experiments with this treatment dealt with 37 cases of eczema, representing various types and stages, viz: intertriginous and chronic eczemas, lichen chronicus, anal and infantile eczemas, etc. Almost all had been treated previously by other methods, including oftentimes the Röntgen rays, without benefit. Almost all of the cases were very favorably influenced. The first improvement is that of diminished pruritus, which often occurs after the first application. This is to be attributed to the direct anesthetic and analgesic action of the rays. This is proved by the numbness of the fingers experienced by those who are occupied with radium. This improvement of the pruritus is especially marked in chronic eczema and lichen chronicus. In a case of excessive pruritus ani, which had also proved resistant to other methods, there was no result. In another case the improvement was only temporary. The improvement in the inflammatory cutaneous appearances begins several days after the first applications. The redness diminishes, as well as the infiltration, and the scaling and crusting gradually disappear. Sometimes pigmentation remains as in the case of x-ray treatment. This method was found valuable in the treatment of infantile eczema and in that of small children. The treatment is easy, the children often sleeping through it, and it is applicable to all stages and to all forms. It is advisable to remove first the thick crusts and scales, to increase the penetrative power of the soft rays.

Psoriasis, which often is so favorably influenced by Röntgen rays, is also a subject for radium. Eleven cases of this affection were treated, at different stages, always with good results as to temporary improvement. No loss of hair was observed. The writer claims that the method is more agreeable to the patient than the Röntgen rays, especially when the lesions are small, numerous, and isolated: in larger patches the x-rays are perhaps preferable. An ointment of Thorium X also gave good results in psoriasis. After three applications on three successive days a light erythema is produced, especially if the ointment is bound on, and the scales previously removed. The affected areas become paler and cease to scale. As there is no doubt of the favorable influence of Thorium X on psoriasis, it is recommended to add Thorium X to the usual applications of white precipitate, and liquid coal tar.

Twelve cases of angiomata were treated with radium, or mesothorium. In the case of port-wine mark, there were no successful results, a palliation only being attained. Better results were attained in the case of deeper-seated angiomata. Keloids were more successfully treated, as has been the experience of numerous other observers. The results in four cases of lupus vulgaris were not very satisfactory. Some impression was made on the ulcerations, and infiltrations were lessened, but the lupus nodules remained unaffected.

In the case of cutaneous cancer, the favorable effect of radium rays has been so generally conceded, that there can be no doubt of the efficacy of this method. But the length of time and the strength of application required vary much with the individual case. In spite of energetic treatment, there are some cases that remain refractory, and some that are incited to increased growth. The small, superficial, slowly progressive lesions of old people, which can also be treated with benefit by the Röntgen rays, are the most favorable cases. (These cases, it should be said, may also be quite as successfully treated by mild caustics, if in expert hands. Rep.) In a few cases of verruca senilis a complete cure was effected by a single application, without a perceptible reaction. Common warts, however, were found to be uncertain, as they are with other methods of treatment. A case of multiple,

idiopathic pigmented sarcoma showed some improvement in places; in four out of six cases of leucoplakia there was a pronounced improvement. No improvement was obtained in cancer of the mucous membrane of the cheek, or in cancer of the tongue. In tumors of the tonsils, especially lympho-sarcomata, relatively favorable results were attained. Glandular affections of all kinds were very favorably affected by radium treatment, including sarcomatous glands; as well as glandular swelling in Hodgkin's disease, malignant lymphomata, and tuberculous glands. Carcinomatous glands were less amenable.

(To be continued.)

Reports of Societies.

CLINICAL CONFERENCE OF THE NEUROLOGICAL INSTITUTE, NEW YORK.

REGULAR MEETING, JANUARY 4, 1916.

DR. J. RAMSAY HUNT in the chair.

A CASE OF ENDARTERITIS OBLITERANS.

DR. WALTER TIMME of the third division presented a case of endarteritis obliterans occurring in the course of a lead intoxication. The patient, O. B. H., entered the hospital on Dec. 21, 1915, with the following history: He was 36 years of age, married, with one living child, his wife having had one miscarriage. He was a painter by trade for many years, and had had an uneventful history until 10 years ago when he suffered from a so-called appendicitis, the chief symptom of which was intense abdominal pain. This attack lasted some three weeks and succumbed to cold applications to the abdomen. He denied all venereal diseases. During the last year he had had a typical blue line on the gums, suggestive of lead poisoning, which responded to local treatment by a dentist in a few weeks. He had had no palsies, no severe headaches, but did have pain along the sciatics and in some of his joints. In 1913, the pain in his left leg began after walking some distance. The pain ceased upon resting to recommence with walking. This intermittent condition of claudication became gradually worse so that only short distances could be covered before rest was necessary. By February, 1915, he could no longer walk at all. The left leg became heavy and more or less helpless and cold, and became the seat of extreme pain and tenderness. At this time the calf of the leg became smaller and flabby, and the thigh seemed also to lose its rotundity. He was treated with electricity and potassium iodide and steadily grew worse. This treatment was changed to hot packs, massage, rest and exposure to the sun and he apparently improved. In February, 1915, a few ulcers developed on the outer side of the left foot, which spread rapidly. They were treated with the therapeutic lamp and practically healed up. In October, 1915, the old ulcers broke down again and necrotic areas developed in their site. They were opened widely but still continued to slough. In December, 1915, three weeks ago, the little toe and adjacent necrotic tissue were removed, but the sloughing still continued. During this entire illness the patient had suffered severe pain over the outer side of the foot and tenderness over the sciatic nerve. Upon admission to the Neurological Institute his condition was as follows: A frail, anemic, ill-nourished man, whose every posture gave him pain and who chose as least irritating, the sitting position. Examination of lungs, heart and upper extremities elicited nothing abnormal. Abdominal and epigastric reflexes were present and equal. Knee jerks were equal and exaggerated, and ankle jerks likewise. There was no true paralysis of the legs and no clonus, Oppenheim or Babinski signs were present. The pupils responded to light and accommodation and the right pupil was occasionally greater than the left. There was no nystagmus and no disturbance of mobility of the eyeballs. There were likewise no gross objective disturbances of sensibility. The tongue was coated and there was a faint suggestion of bluishness on the border of the gums. There was marked atrophy of practically all the muscles of the thigh and leg of the left side and the site of the sloughing on the outer side of the foot of that side was the center of severe radiating pain. There was felt no pulsation of the dorsalis pedis nor of any other artery of the entire leg up to and including the femoral to Poupart's ligament. Of course the patient was bedridden, unable to walk. An examination of his blood showed Wassermann negative, white and red cell count normal with some degenerated red cells. The urine contained small traces of lead. The fundi of both eyes were normal.

We therefore have a patient with an obliterating endarteritis which originally began as an intermittent claudication during a period of lead intoxication. The etiology of such conditions has always been considered obscure and yet a number have been reported as occurring in lead workers. In his article on endarteritis obliterans in Nothnagel's *Handbuch*, Professor S. Schroetter gives photographs of preparations from such arteries made by Stoercke, Paltauf and Kolisko, showing that it is the media of the arterial wall that is the seat of hypertrophy. This hypertrophy increases until an absolute occlusion takes place. The arteries of the lower extremities are especially prone to such inflammation, and males are much more frequently affected than females. It is not due, as has been largely believed, to diabetes, endocarditis or even syphilis, but is seen frequently after intoxications and infections. Even after influenza it has been reported. Kolisko, in an opinion expressed to v. Schroetter, and published by the latter, stated that he had seen it frequently in chronic lead intoxication, a condition in which the arterial walls were especially prone to a productive inflammation of the media. Victor C. Vaughan in his article on mineral poisons, also declares that the changes in the vessels in lead intoxication are those of an arteritis obliterans.

An interesting point in the therapy of these cases of lead intoxication is the almost uniformly bad result of the ingestion of potassium iodide in moderate quantities. The iodide releases much lead rapidly, which invades the weakly resistant tissue, increasing the symptoms. Sulphur seems to cause elimination without this incidental reabsorption and hence is to be preferred. As far as the obliter-

ating endarteritis is concerned, no adequate therapy has as yet been devised.

A CASE OF OPHTHALMOPLEGIA WITH BEGINNING MUSCULAR WEAKNESS.

DR. WALTER CLARK HAUPT in presenting this case from the first division said that it was particularly interesting as the diagnosis was difficult and the etiological factor could not be determined with certainty; furthermore, that the development of a general weakness of the musculature subsequent to an ophthalmoplegia of acute onset was an unusual feature.

The patient, a married Jewess, aged 38, was admitted to the Hospital on Dec. 30, 1915, complained of inability to raise the eyelids as well as weakness and shakiness of the legs. Her family history is negative. She had measles at six, followed by paralysis of the left external rectus, coming on after pain and redness in both eyes. The strabismus was corrected by operation at the New York Eye and Ear Infirmary, 14 years ago. She has had no serious illness until last winter. Her menstrual history is normal. She has borne three children, one of whom became cross-eyed at the age of two but is otherwise well, as are the other two children. She has had two miscarriages. For the past 20 years the patient has been in the habit of drinking a glass of home distilled brandy for breakfast, about two or three times a week, as well as a glass of beer with her dinner and supper.

In December, 1914, the patient had what was considered an attack of grip, coming on with fever, chills and headache. These initial symptoms soon passed off, but gradually a stiffness of her posterior neck muscles developed as well as a sticking pain jumping from place to place all over the body. Her skin became so sensitive that it was painful to touch. She could not close the hands on account of severe pain. She was unable to change her position in bed unaided, as an attempt to do so would give her great pain. She had a sensation of pins and needles in the feet and occasionally in the hands. While the legs and arms often became stiff and painful, the joints were not swollen or reddened. From December until June, she spent much of her time in bed owing to her condition. Three times a week she went to the Ruptured and Crippled Dispensary for injections of pituitary, electricity and massage.

Her condition having become no better, she went to Mount Clemens in June, 1915, where she stayed for a month and took baths and massage. In July she returned to New York feeling quite well and strong. She had no trouble until September, when she was suddenly seized with a severe pain in her forehead and temples. This pain became constant, boring in character and aggravated at night. When it was particularly severe she would see specks and zig-zag figures before her eyes, and at times she would see double. She also complained of constant drowsiness. Medication did not relieve her headaches; they became less intense, however, during the first week of November. It was then that the patient first complained of a tired feeling in the eyes after reading. A day or two later she noticed that she could not move her eyeballs as well as usual. Two days afterward her left eyelid began to droop and one week after that the right one.

She went to the New York Eye and Ear Infirmary where she was admitted on Nov. 10. The following reports on examinations made there are at hand: The urine showed pus, epithelial and red blood cells. The blood count was normal except for 13,000 leucocytes. The Wassermann reaction of the blood serum, as well as that of the cerebrospinal fluid, was negative. No cells or excess of globulin were found in the latter.

The report on an x-ray of her skull (Dec. 9, 1915) is as follows: She has small, fairly clear frontals, the right ethmoids and both anterior and posterior ethmoids on the left are cloudy. Antra are fairly clear. Nasal septum is thick above on left and below on right (spurs?). Lateral view shows ethmoidal and antral regions cloudy. Sella is normal.

After the spinal puncture she had a severe headache which lasted two weeks. She gradually regained some power over the right eyelid, while the left remained drooping. She found that her legs had become so weak that she could hardly stand up; while lying in bed her knees would jerk up. She also noticed a weakness of the upper extremities; on returning home from the Infirmary three weeks ago, she could not perform some of her accustomed household duties, such as cut bread.

During the past eight weeks, the patient has noticed that she tired easily when chewing, that her voice became weak and hoarse. She reports that she has had mild attacks of dyspnea and crying spells.

During the past two weeks, her legs have become much weaker and she has fallen on several occasions when attempting to walk; she feels that it has become difficult for her to rise from a recumbent or sitting position and on sitting down she lets herself fall into the seat of the chair, as her strength gives out.

Physical examination: The patient is a short and obese woman.

The cardo-respiratory system and abdominal organs are negative. Blood pressure is 150.

She has large, unhealthy turbinates and purulent secretions in her nose; the pharynx injected.

The pupils are irregularly oval in shape, the right is slightly larger than the left. Both react promptly to light and contract well during accommodation. The left cornea shows opacities due to an old keratitis. There is no diplopia or nystagmus.

Bilateral ptosis, more marked on left, is present; vision is 20/30 on the right, 20/20 on the left. Perimetric fields and fundi are normal. The left eyeball is almost rigid, except for motion inward, the movements of the right are also limited except for motion inward and downward.

Corneal sensibility is normal. Chewing movements are normal, the masseters are not fatiguable. There is no facial asymmetry.

She has no difficulty in swallowing.

Hearing is normal.

The pharyngeal reflex is present. The tongue is protruded in the midline and shows no tremor or atrophy.

The muscles of the upper extremities are flabby but not atrophied. Range of movements and muscular tone are somewhat diminished. There is a distinct weakness of her deltoid, pectoralis, biceps and flexors of the hand. The most marked weakness, however, is in both tricipites. She is unable to hold her arm extended against moderate attempts to flex it, nor is she able to extend her arm straight in front of her against the least resistance. Elevation of the shoulders, as performed by the trapezius,

is powerful, but all the movements of the head are much weakened. It must be added that these findings are subject to variation. All the arm reflexes are present. There is no intention tremor. No incoördination, no astereognosis, no adiadochokinesis nor sensitiveness over the nerve trunks.

The abdominal reflexes are not obtained. The gait is unsteady, broadbased, but not ataxic nor spastic.

The station is unsteady, but there is no Romberg. On attempting to rise from a chair the patient places the hands on the thighs for support and on sitting down she lets herself fall into the seat after flexing her legs to a certain distance. She rises from a recumbent posture with the aid of the arms.

The lower extremities show no atrophy, but the muscular power has become much diminished since admission. Tone and range of movements are normal. There is no incoördination, no Babinski or Oppenheim. The knee and ankle jerks are diminished. No tenderness over the course of the nerve trunks. There are no marked sensory disturbances, but she appears to be somewhat more sensitive to pin scratch and cotton-wool at the outer surface of both elbows as well as in the back from the fourth to the eighth dorsal spine, but no band of positive hyperaesthesia can be determined. All the spinous processes from the sixth down are more tender than those above. Similar variable and indefinite changes can be found in the legs. The laboratory examinations, including the Wassermann reaction of the blood serum and of the cerebrospinal fluid are negative. No cells or excess of globulin were found. The electrical reactions are as follows: All the facial muscles respond fairly promptly to both faradism and galvanism, the contractions being slightly more active on the right. There is no typical myasthenic reaction demonstrable. The muscles contract 150-160 times on the same minimal stimuli with only slight delay in contraction time and moderate reduction in completeness of contraction. No reaction of degeneration is demonstrable in change of formulae.

The leg and arm muscles likewise contract surprisingly well to both faradic and galvanic current of moderate intensity.

To sum up, then, we have before us a middle-aged woman who develops acutely, subsequent to severe headaches, an almost complete ophthalmoplegia with bilateral ptosis.

Two weeks afterward she complains of gradual weakening of her lower extremities, the trunk and neck muscles and the upper extremities.

At first myasthenia gravis was considered, but owing to the acute onset of the symptoms, the absence of the myasthenic reaction and of definite gross fatiguability of the musculature, this diagnosis had to be given up.

The indefinite joint pains, the aeroparesthesiae, the stiffness of the extremities of which she complained last winter, suggested syphilitic involvement of the posterior roots. The fact that she had had two miscarriages and the frequency of ocular palsies in syphilis of the central nervous system, and finally the severe lancinating headaches, seemed to make a luetic basis most probable. However, the negative character of the serology rules out lues as a causative factor.

As the patient has never suffered from periodic headaches, an ophthalmoplegic type of migraine cannot be considered.

Acute ophthalmoplegia often arises from some infection or intoxication and a frequent pathological cause is the polioencephalitis acuta hemorrhagica superior as described by Wernicke.

In view of the acute onset of the ophthalmoplegia subsequent to severe headaches, this pathological basis appears to be most likely. It may be that the mild tippling indulged in by the patient for many years is the primary etiological factor; other toxic or infectious agents cannot be determined with certainty.

As regards the beginning muscular weakness, a polioencephalomyelitis might be held responsible, but at this early stage it is difficult to say whether we are dealing with a beginning poliomyelitis or some form of dystrophy.

A CASE OF MYASTHENIA GRAVIS.

DR. J. W. STEPHENSON presented, from the second division, a man, age 22, druggist, who denied any venereal infection and also alcoholic indulgence. His personal previous history was negative, and no evidence of heredity was elicited. His story of present illness is as follows: "About the eighth of October, 1915, he noticed a drooping of his left eyelid. Later it developed into a complete closure of this eye. Under electrical treatment the lid returned to normal position in about 18 days. The drooping of the left lid was soon followed by drooping of the right, and there has been an alternate ptosis since. He experiences indefinite pains all over the body, especially bitemporal, weakness in lower extremities and general muscular relaxation. There have also been temporary spells of diplopia. Patient entered hospital Nov. 24. There was distinct ptosis of the left lid, and a partial of right. He is a well-developed man of good intelligence. He complained of bitemporal headaches, but this bore no relation to the ptosis. His station is normal, the upper jerks are present but not exhaustible. The lower jerks are active, the plantar responses are flexor. The epigastrics are present and equal, the abdominals are not elicitable. Eye mobility is intact and pupils respond promptly. Eye examination by Dr. Holden is negative except for the ptosis. The serological investigations revealed one positive Wassermann in the blood, whereas two others and spinal fluid were negative. Routine blood and urine examinations were negative. The electrical reactions of the orbicularis and frontal muscles revealed nothing positive, though a suspicious myasthenic reaction.

The patient remained in the hospital for several weeks, and during this time the only symptoms he presented were the ptosis, which varied somewhat from day to day, and headache. The headaches, however, were not accompanied by any particular physical manifestation of pain. He was discharged from hospital and told to report in a month.

While at home his physician reported he developed a complete left ophthalmoplegia externa.

On Jan. 4, 1916, patient reported at hospital. In addition to the left ptosis, he showed a distinct limitation of movement upward in left eye and movement downward in the right. On first effort he made a fairly good excursion, but upon continued effort he finally was unable to make any movement upward, in the left, nor any movement downward in the right. Other ocular

movements intact, and general examination as on previous stay in hospital. The right ptosis was not as pronounced. However, by this time he had developed a new symptom, namely a "peculiar feeling" in the throat. "Peculiar" was the only way he could describe it. Serum Wassermann taken was negative and examination of larynx, throat and sinuses by Dr. Farr of the Manhattan Eye and Ear Hospital revealed the following: Slight reddening of the right vocal cord. No lingual adenoids, base of tongue has chronic catarrhal condition. Radiograph shows very large sphenoidal sinus, but apparently not involved. Frontal sinus bulges but normal. Other sinuses normal.

The electrical reactions now show a distinct myasthenic reaction, the orbicularis and frontal exhausting on the application of from 16 to 25 faradisms. His blood pressure has ranged between 125 and 130mm. To summarize, about four months ago the patient develops headache with a left ptosis. The ptosis improves only to be followed by a right, and during this time there has been an alternating ptosis. In addition, there have been temporary spells of diplopia. The patient is observed in the hospital and nothing but the ptosis discovered. He goes home and the report from his physician is that he has developed a complete left ophthalmoplegia externa. He is seen two weeks later and the complete ophthalmoplegia had disappeared, although he presents remnants of same inasmuch as there is a limitation downward in one eye and upward in the other. Both movements upon continued efforts become impossible to the slightest degree. The vacillating course of the condition, the length of time taken in the development of the individual findings, together with the electrical reactions, leave no doubt as to the nature of the malady. Were it not for the electrical reactions one would of necessity consider other possible diagnoses, viz., chronic suppolio, brain tumor, and a vascular lesion of specific or other origin. However, the first could be eliminated by the course of the condition, chronic superior polio doing its damage all at once and steadily, not running an up and down course. The second possibility could be eliminated also by the course of the condition and, in the presence of a progressive condition, such as this, by the absence of fundi findings and other symptoms of cerebral compression.

The third possibility, with the present diagnosis, were the two most seriously considered when the patient first presented himself. It is apparent that the specific etiological possibility was soon eliminated. Close watch was kept on his circulatory apparatus and though the ptosis varied and also his other complaints, the condition of his blood pressure, pulse, periphereal circulation remained quite constant, nor was there discernible any abnormality in his entire circulatory make-up.

The case is interesting in that the course is progressing in a rather classical manner, and exemplifies the fact that often in the early stage of the condition the myasthenic reaction is wanting in consequence of which in the presence of a ptosis in the young, especially if the degree is changeable, we should always bear in mind the disease known as myasthenia gravis.

AN INTERESTING CASE OF FACIAL PARALYSIS.

DR. WILLIAMSON presented, from the first division, an unusual case of facial paralysis. The patient, a young Italian woman, 30 years of age, married, who seeks relief from facial paralysis.

She recalls no diseases of childhood. Typhoid at the age of 17 and made a good recovery. She was married at 22 and has three children, but reports that she has never felt really well since the birth of her first child. She has had no miscarriages but she has complained of indefinite pains in her abdomen, backache, faint dizzy spells ever since this time. She says every doctor who has treated her has called her hysterical. One of her children has hip disease. Her menstrual life began at the age of 15 and has always been regular. She has had some sort of pelvic operation six years ago, the nature of which she does not understand. Her family history is negative.

About six weeks ago she was suddenly seized with severe pain in the left ear with a red spot at the orifice of the external auditory meatus. Pain extended back of the ear over the mastoid tip and down the neck. This lasted about three days and then a little matter appeared on the ear, which was yellow. The pain then left her about a week and began again in the right ear, lasting a few days. The pain then reappeared in the left ear and was exactly similar to the first attack. The red spot again appeared in the same place but this time there was no further discharge of pus. She went to Bellevue where a diagnosis of cerumen and eczema was made. This lasted a week, when she got a chill, general headache, pains in the arms, and sore throat. She had a temperature and was put to bed by her doctor who told her she had the grip. There was, however, no discharge from the ear at this time.

The pain became very severe around the ear for one night and then it began to moderate for several days. Then she was again seized with a severe pain in the whole left side of the head, which she describes as a twisting, cutting, stabbing pain, coming on after exposure to cold. Three or four days later the left half of her face became paralyzed. There was no dizziness nor vomiting accompanying this pain, but she felt extremely weak, had precordial oppression and sensation of smothering with a moderate degree of pain in the shoulders.

Her examination reveals a complete left-sided peripheral facial paralysis. The frontalis muscle is flat and smoothed out, the left cheek is flat and smooth, she is unable more than partly to close her left eye, she is unable to retract the left angle of the mouth or elevate the nose. Electrical examination shows that all the muscles of the side of the face respond to both faradism and galvanism. There is a distinct reduction, however, in the force and promptness in the contraction of the muscles of the left side when compared with those on the right. This is most marked in the occipito-frontalis and orbicularis. There are no changes in the formula demonstrable. An aural examination by Dr. Dench shows both drums thickened, depressed, lusterless, myotic spots. No difference in hearing to low whisper or tuning fork 256 vibration and the tone limits of right and left ears are normal. There is no spontaneous nystagmus, but nystagmus is present both right and left when the ears are flooded with cold water. Ataxia on standing, falls to the right. Double cathode causes nystagmus to the left.

A careful sensory examination of the concha, drum or skin over the face, fails to reveal any disturbance of sensation either to touch or pin prick

but all the sensory points of her fifth nerve, the posterior auricular branches and the point over her jugular ganglion are extremely tender to pressure. There is no difference in corneal sensibility.

The interpretation suggested by the history of recurrent attacks of pain, the last of which was accompanied by a facial palsy in a woman of unstable vasomotor system, is that we are dealing here with a rather extensive inflammation of the entire sympathetic chain, including the geniculate, otic and jugular ganglia, and that the most probable explanation of the red spot on the concha was a herpes.

Harvard Medical School.

MEDICAL MEETING

IN THE AMPHITHEATRE OF THE PETER BENT BRIGHAM HOSPITAL, ON TUESDAY EVENING, MARCH 28TH, AT 8.15 O'CLOCK.

DR. HENRY A. CHRISTIAN, president, in the chair.

INFORMAL REPORTS UPON CURRENT WORK IN DIABETES.

PROFESSOR T. A. BENEDICT: "The Respiratory Quotient in Diabetes."

There is no better way to realize the enormous change which has come about in our conception of diabetes than to trace the work recently done on the respiratory quotient. Two years ago it would have been a simple task to review our knowledge of this subject in a single evening. At present we can but touch upon it in a general way.

By the respiratory quotient is meant the relation between the volume of CO_2 excreted and the volume of oxygen consumed. When the measurements are carefully made the ratio reads about 0.7. The respiratory quotient of fat is about 0.7 and of protein about 0.81. About 15% of the total energy of the body comes from the combustion of proteins. Accordingly, the respiratory quotient has to do chiefly with the metabolism of fats and carbohydrates.

The determination of CO_2 is comparatively simple. That of oxygen, however, is extremely difficult. The determination of both, therefore, requires very great skill and care.

As a result of the modern Allen treatment of diabetes there is a profound change in the respiratory quotient. Where this form of treatment has been pursued in whole or in part we can no longer predict exactly what the quotient will be. Frequently it is very high—0.79 or even 0.81. It is difficult to explain just why this occurs.

The important question, however, is whether the diabetic under treatment can burn more sugar than he could without treatment. There are several indices of whether such a patient is really burning an increased amount of carbohydrate. One method consists of giving levulose and watching the respiratory quotient. When 100 gms. are given a definite increase in the quotient is occasionally noted. A fact which is often lost sight of is that the combustion in the body normally maintains a regular level regardless of the food intake. The levulose, under such circumstances, is either burned or it is converted into fat. When a severe diabetic reacts in this way it is a very conclusive proof that the carbohydrate undergoes one or the other of these transformations. If it is converted into fat it is of course available for energy.

Discussion by DRS. BOOTHBY AND TALBOT.

PROFESSOR W. R. BLOOR: "The Significance of Blood-Fat in Diabetes."

Up to the present time in the study of diabetes attention has been paid chiefly to two phenomena; the decreased utilization of carbohydrates, and the presence of acidosis. The fact that such patients live, in part, on their fat-burning mechanism has been largely overlooked.

By the term blood-fat we include four groups of substances; (1) the true fat; (2) lecithin, a modified fat; (3) cholesterin; and (4) cholesterin esters of the fatty acids. We regard as important in a determination not only the actual amounts of the various constituents but also the relationships between them. In normal bloods the variation in amounts of these substances ranges from 15 to 20 per cent. In fasting the blood fat may or may not increase, depending on the person examined. The same is true of narcosis. Here the percentage of fat depends upon the narcotic used. Of the pathological states the most important are diabetes and alcoholism.

At present we have very little reliable data regarding the blood fat in these conditions. This is due to several factors, the most important of which are that the fats have been incompletely extracted, and some of the constituents, lecithin particularly, have been in part destroyed by the use of heat in the extraction.

The technic used in the work reported here consists of micro-methods. Such methods obviate the use of heat and permit the determinations to be carried out within a half hour or an hour from the time the blood samples are drawn. The figures derived in this way, accordingly, are higher than those which have been previously reported.

For the purpose of this discussion the fat-burning mechanism may be expressed as follows:

Fat → lecithin → attack by cells → complete combustion of fat.

In disease this mechanism may break down at any point. In order then to force the cells to attach the lecithin the latter must be greatly increased in amount, etc. At present this is probably the best explanation why there is an increased blood lipoid in such cases.

Discussion by DR. FOLIN.

DR. A. A. HORNOR: "The Carbon Dioxide Tension of the Alveolar Air in Diabetic Patients."

The chart on the next page has been constructed from the results of an analysis of three hundred tests.

DR. E. P. JOSLIN: "The Prevention and the Treatment of Diabetic Acidosis Without the Use of Alkalis."

Acid poisoning has been responsible for the deaths of 66% of all my cases. In children, which have constituted about 7 or 8% of my cases, 100% of the mortality has been due to it. These figures show the striking importance of acidosis. Of the diabetic patients who succumbed during the first year of the disease 86% of the deaths were due to coma. Since diabetes is a chronic disease, however, there should be comparatively few deaths from it during the first year. Figures taken from the records of the Massachusetts General Hospital show that 67% of the

fatal cases had lived only one year or less subsequent to the appearance of the disease. In the years between 1898 and 1913 the deaths of this type reached only 41%. These figures show an improvement, though the treatment antidated the modern handling of diabetes. Naunyn's figures for this period are even better—31%.

		CO_2 Tension.	Diacetic Acid.	NH_3	Carbohydrate Balance. No. of Observations. Positive.	Negative.
Living Cases. No soda.	Not fasting. CO_2 Varied from 18 to 46 mm.	22	All	3—5.7	0	3
		23—25	+			
		26—33	+	3—3.6	8	8
		33—36	+	1.5—3.7	64	18
		36—46	+	2.0	35	4
			+	1.8	46	0
	Fasting CO_2. Varied from 18 to 38 mm.	18—27	+	2.4—3.5	3	6
		28—33	+	1.7—3.4	8	14
		33—39	+	1—1.7	9	1
			+			
Living Cases.	Taking soda	28—38	+	1—2.8	—	—
Fatal Cases.	No soda	7—20	+	0.8—4.8	0	All
	Soda	14—55	+	0.6—5.0	0	All

Of the fatal cases in Boston during the past year 27% died during the first year of the disease. This shows a striking improvement. In my own cases, 99 in number, only 17% died during the past year, and 95% of these had had the disease longer than one year. There are several factors which account in part for this low mortality. My own facilities are exceptional since but one nurse has handled all of these patients and since several others experienced physicians have also worked with them during this time.

We have proceeded on the assumption that if the signs of acid poisoning could be prevented from making their appearance then the patients could be prevented from dying of coma. The Allen treatment has enabled us to carry this into practice. Where there has been any doubt about the advisability of using the starvation treatment we have cut the fats from the diet, as most of the acids are made from fats. Then in succeeding days the carbohydrates have been gradually cut down. The majority of the patients became sugar-free before the fasting was necessary. Such a course is particularly useful where the kidneys are damaged, since but little acid can be excreted by poor kidneys. One must nevertheless be very cautious in advising against the use of soda. This preventive method of treating acidosis is worth while for when a patient gets into coma there is comparatively little that can be done. A number of children who might have died in the hospital in the endeavor to make them sugar-free according to the old practice, by simple cutting out the fat and then slowly cutting down the carbohydrates have been rendered acid- and sugar-free within comparatively short periods.

In acid poisoning of the severest type the cases are now treated without alkali. Here, as Naunyn pointed out, it is essential to treat not the acidosis but the diabetes. This treatment consists of alternate periods of fasting and feeding. While fasting may lead to an increased acidosis at the beginning of the treatment, later fasts lead to a lessened degree of acid poisoning. The periods of feeding are then gradually lengthened while the fasts are shortened. With this method no severe cases have been unsuccessfully treated, though there may be cases which cannot be made acid free.

Discussion: DRS. BRIGHAM, CHRISTIAN AND PEABODY.

ERNEST G. GREY, M.D.

Book Reviews.

Anatomy of the Brain and Spinal Cord. By HARRIS E. SANTEE, A.M., M.D., Ph.D. Fifth Edition. Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1915.

The anatomy of the central nervous system is a subject so technical, and so difficult of clear text-book or didactic presentation to students, that so excellent a monograph as Dr. Santee's is of particular value both for students and for practitioners. This fifth edition of an admirable and already well-known work has been largely rewritten in accordance with the discoveries of recent years. The embryology is more fully incorporated with the text than is the case with the fourth edition, and on this account the special embryologic chapter is omitted. The book is written with special reference to mechanism and function. For this reason, particular importance is attached to the localization of the functional centres, the tracing of afferent, associative and efferent connections, and the origin, crossing and termination of conduction paths. Everywhere function is correlated with structure. The terminology of the B. N. A. has been adopted throughout, and in cerebral anatomy particularly this is of great advantage to clearness. The book is well illustrated with 158 illustrations, of which 46 are printed in colors. It is a work of definite and permanent value to students, and to those practitioners whose special interest involves the necessity of constant familiarity with cerebro-spinal anatomy.

THE BOSTON
Medical and Surgical Journal
Established in 1812

An independently owned Journal of Medicine and Surgery, published weekly, under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

THURSDAY, APRIL 13, 1916.

EDITORS.

ROBERT M. GREEN, M.D., *Editor-in-Chief.*
GEORGE G. SMITH, M.D., *Assistant Editor.*

WALTER L. BURRAGE, M.D.
FREDERICK T. LORD, M.D. } *For the Massachusetts Medical Society.*

COMMITTEE OF CONSULTING EDITORS.

WALTER B. CANNON, M.D.
HARVEY CUSHING, M.D.
DAVID L. EDSALL, M.D.
REID HUNT, M.D.
ROGER I. LEE, M.D.
ALLAN J. MCLAUGHLIN, M.D.
ROBERT B. OSGOOD, M.D.
MILTON J. ROSENAU, M.D.
EDWARD C. STREETER, M.D.
E. W. TAYLOR, M.D.

ADVISORY COMMITTEE.

EDWARD C. STREETER, M.D., Boston, *Chairman.*
WALTER P. BOWERS, M.D., Clinton.
ALGERNON COOLIDGE, M.D., Boston.
HOMER GAGE, M.D., Worcester.
JOEL E. GOLDTHWAIT, M.D., Boston.
LYMAN A. JONES, M.D., North Adams.
ROBERT B. OSGOOD, M.D., Boston.
HUGH WILLIAMS, M.D., Boston.
ALFRED WORCESTER, M.D., Waltham.

SUBSCRIPTION TERMS: *$5.00 per year, in advance, postage paid, for the United States. $6.56 per year for all foreign countries belonging to the Postal Union.*

An editor will be in the editorial office daily, except Sunday, from twelve to one-thirty p. m.

Papers for publication, and all other communications for the Editorial Department, should be addressed to the Editor, 126 Massachusetts Ave., Boston. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish one hundred reprints free to the author, upon his written request.

The Journal does not hold itself responsible for any opinions or sentiments advanced by any contributor in any article published in its columns.

All letters containing business communications, or referring to the publication, subscription, or advertising department of the Journal, should be addressed to

ERNEST GREGORY, *Manager.*

126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

A NOTEWORTHY SCIENTIFIC MEDICAL DISCOVERY.

IN a brief article in the issue of the *Journal of Medical Research* for March, 1916, which has just come to hand, Dr. F. B. Mallory and Dr. E. M. Medlar, from the pathological laboratory of the Boston City Hospital, present a preliminary report of their epochal work on the etiology of scarlet fever. They have succeeded in isolating from the tissues of children dying early in the course of the disease, especially from the tonsils, palate, pillars of the fauces, root of the tongue, trachea, and lungs, a strongly gram-positive bacillus, growing in large and small clumps, in practically pure culture, between the epithelial cells. This bacillus stains well with ordinary dyes and shows a tendency to irregularity of staining in lightly stained preparations and in too strongly decolorized gram preparations. No polar bodies are present. In culture, the organism is slightly smaller than the diphtheria bacillus, and varies from coccus-like to large bacillary forms. The authors further describe the cultural characteristics of this organism, which is a facultative aërobe, and feel it reasonable to infer from their observations that the disease—scarlet fever—may be due to this bacillus, which they have provisionally named *Bacillus scarlatinae*, less virulent than the diphtheria bacillus and infecting practically the same locality. "The toxin causes necrosis and denudation of the covering epithelium and leads to an exudation of serum and polymorphonuclear leucocytes. Fibrin formation is usually absent or slight. On this account the primary gross lesions are inconspicuous and easily overlooked." The streptococcus, which has hitherto sometimes been regarded as the cause of the disease, is, therefore, to be considered merely as a secondary invader.

Assuming that these preliminary results are confirmed, of which there seems little doubt, the authors of this important piece of research have contributed to medical science a discovery of the first magnitude. It is only three years ago that Drs. Mallory and Hornor contributed, from the same laboratory, valuable knowledge on the histologic, mechanical lesion of pertussis and on the relation of the Bordet-Gengou bacillus to that lesion. This work was editorially described at the time in the issues of the JOURNAL for November 21, 1912, and January 2, 1913. Dr. Mallory's present contribution promises to eclipse in importance that of the former work. Yet both are evidences of the same type of effective scientific investigation.

With its wealth of clinical material, the South Department of the Boston City Hospital was logically the place where the discovery of the etiology of scarlet fever should have been made; but to make it, necessitated the insight, patience, and scientific genius of the true discoverer, and the necessary means for carrying out the investigation. The former were found in Dr. Mallory; the latter was provided through the influence of the mayor, to whose initiative the opportunity for accomplishing the work was due. The credit for this part of the work is recognized as follows by Dr. Bradford in a letter to the mayor, commenting on the discovery recently announced, and published in the daily press:

"As you know, a scientific fact is not accepted until it is confirmed by other observers, and it will be some time before investigators will have the opportunity to confirm Dr. Mallory's researching. He is, however, so careful a

man, and so restrained in his statement, that there can be little doubt of the importance of the work and of the probable far-reaching consequences.

"When General Leonard Wood was governor of Cuba, he risked his reputation and adverse criticism by ordering a substantial financial grant for the investigation of yellow fever. A narrower-minded man would have hesitated to do this, but Gen. Wood is not afraid, when right, of criticism. The results were, as you know, that yellow fever is no longer a scourge in properly governed communities.

"I have been informed that Dr. Mallory's recent work was due to your initiative and aided by Dr. Mallory's interest. You have, therefore, earned not only the thanks of the profession and of the community, but also, like General Wood, a life-long satisfaction for your share in an undertaking which may prove of inestimable help to humanity."

Dr. Mallory's discovery, if confirmed, is the first step, but a long and important one, toward what may be expected to prove the ultimate control of scarlet fever, like that of diphtheria. It demonstrates the etiological agent of the disease and its primary essential lesion, and clears the way for further investigation in the search for a vaccine or antitoxin by which it may be prevented, controlled or cured. Such treatment and control of this very serious infection would be an immense advance in clinical medicine, in the prevention of infant mortality, and in the betterment of the general public health. Such a piece of research successfully completed is not only a notable credit to its authors and a matter of congratulation to the Boston profession, but it is a valuable and beneficent contribution to the progress of medical science, in the knowledge and control of human disease, suffering and death.

IMPORTANT NEW DATA ON BOTULISM.

IT has been known since Van Ermengem's studies (*Ztsch. f. Hyg. u. Infec. Krank.*, 1897, xxvi, 1; *Arch. de Pharmacol.*, 1897, iii, 213, 499), that the bacillus botulinus produced a toxin of high potency, which caused a profound and characteristic effect in the body. The bacillus itself is not pathogenic and does not grow in the body under ordinary conditions, but under certain fairly definite conditions elaborates its toxin in food products, and when these are eaten, poisoning quickly ensues. Unlike most bacterial toxins, this one is absorbed from the gastro-intestinal tract, and therefore its presence in food is particularly dangerous.

The bacillus botulinus is an obligative, anaerobic, spore-bearing bacterium, which requires darkness and moisture for growth. These conditions are excellently fulfilled in canned foods, and less perfectly in meats, such as sausages. The clinical picture of botulism represents a central nervous system involvement rather than a primary attack on the gastro-intestinal tract, and shows paralyses, especially of the ocular muscles, weakness and a characteristic absence of sensory symptoms. The course progresses to a bulbar palsy. The disease has been almost universally considered to arise only from the ingestion of meat which contained the toxin of bacillus botulinus. It has also been generally considered that animal proteids were necessary for the development of the bacillus and the elaboration of this toxin. Danger of poisoning was, therefore, supposed to be limited strictly to animal food.

In a recent communication important new data are presented by E. C. Dickson from the division of medicine of the Leland Stanford, Jr., University School of Medicine (*Jour. A. M. A.*, 1915, lxv, 492), who gives experimental and clinical proof that the bacillus botulinus may develop on certain vegetable proteids, as well as on those of animal origin. The value of this contribution is self-evident, as it at once incriminates canned vegetable foods as a possible source of botulism, a possibility which is enhanced by the spore-bearing character of the bacillus and by the often inefficient sterilization of home-canned vegetables and fruits.

Dickson found a number of cases which were probably botulism, due to ingestion of canned vegetables or fruits. One such case, with autopsy, was reported as such by Wilbur and Ophuls (*Arch. Int. Med.*, 1914, 589), where botulism followed ingestion of a salad made from home-canned beans. An epidemic of 21 cases with 11 deaths was reported from Darmstadt by Landmann (*Hyg. Rundschau.*, 1904., xiv, 449). Two other reports were collected by Dickson, both of epidemics in California, where probable botulism followed ingestion of home-canned pears and apricots. With these exceptions, which had previously attracted little attention, botulism has been held to be due strictly to ingestion of animal proteids containing the toxin.

A series of experiments was carried out by

Dickson along the following lines, to determine if it were possible for the toxin of botulism to be formed in vegetable media. One cc. of a suspension of bacillus botulinus in normal saline was injected through a nail hole into tins of canned string beans, which were then re-soldered. The beans were a high-class grocery product in one-quart tins. The tins were incubated at room temperature for from three to twelve months, after which they were opened, the reaction tested, aerobic and anaerobic cultures made, and some of the fluid was injected into rabbits, guinea pigs and cats. Of the 16 guinea pigs, 16 rabbits and 13 cats injected, 4 guinea pigs, 7 rabbits and 5 cats died, and a number more showed symptoms for a few days, but recovered. Of the 16 animals that died, 13 showed characteristic post-mortem lesions. Most of the tins, after incubation, showed an acidity of from 2 to 2.5% to phenolphthalein. Bacillus botulinus in pure culture was recovered from 6 of the 12 tins.

These results furnish striking evidence that bacillus botulinus can develop and produce its toxin in vegetable media, that animal proteids are not essential for its development, and that the ordinary acidity of canned vegetables does not prevent this growth. Canned vegetables and fruits furnish an ideal medium for the bacillus, which requires an absence of air, moisture, darkness, and a temperature optimum of from 72 to 82° F. The spores resist a temperature of 185° F. for 30 minutes, so that without fractional sterilization it is evident that home-canned vegetables and fruits may be exceedingly dangerous. Dickson found specifically that string beans and peas were available culture media. It will be a matter of no small importance to determine, first, whether all or only certain special vegetables and fruits will allow development of this bacillus, and, secondly, what specific chemical substances, presumably proteids, are the essential ingredients of these culture media.

In the case reported by Wilbur and Ophuls, the latter found that the most characteristic lesion seemed to be a thrombosis in the arteries and veins of the central nervous system. Dickson confirms this strikingly, and finds that the toxin produces a disturbance of the circulatory system, which leads to hyperemia and hemorrhages into the meninges and central nervous system, and to thrombosis in the arteries and veins in these locations. The nerve-cell lesions localized in the Nissl granules and nerve-cell nuclei, which have heretofore been considered the only characteristic lesions, are found by Dickson to be due, not to a specific action of the toxin on the cell protoplasm, but to be secondary to disturbed blood supply. This is as important a contribution for the pathology of botulism, as is the demonstration of vegetable culture media to its etiology.

Confirmation and further work along the lines suggested are strongly indicated. It is also a matter of importance to determine the natural habitat of the bacillus botulinus. As Dickson says, the pig is under suspicion, and Kempner and Pollack have recovered the bacillus from pigs' feces (*Deut. med. Woch.*, 1897, xxiii, 505).

ANTI-MENINGITIS SERUM.

PHYSICIANS will be glad to learn that the Rockefeller Institute for Medical Research has resumed the preparation of anti-meningitis serum because of the prevalence of epidemic meningitis in the armies in England and France and the consequent demand for the serum. Meningococcic meningitis has prevailed either in epidemic form or sporadically in many European countries during the past ten years; and now that we know the manner in which the disease is conveyed, namely, by means of meningococcus carriers, who harbor the microörganism in the nasopharynx, the appearance of meningitis in widely separated countries and places is not at all remarkable. The bringing together of recruits has had the effect of introducing carriers of the infection into the European armies and may do the same to the army of the United States.

Elser and Huntoon (*Jour. Med. Research*, 1909, 20, 371) described an organism indistinguishable from the meningococcus except by means of the agglutinin absorption tests, and gave the name of "pseudomeningococcus" to this organism. In the same year Dopter (*Compt. rend. Soc. de Biol.*, 1909, 67, 74) studied and described a similar organism, obtained from the upper air passages, to which he gave the name "parameningococcus." This was found by Dopter and other French workers to invade the blood and meninges, and they considered it to

be identical with the pseudomeningococcus and as one of the causative agents of epidemic meningitis. Martha Wollstein, of the Rockefeller Institute, (*Jour. Exper. Med.*, 1914, 20, 201) made a careful comparative study of the immune reactions of the meningococcus and the parameningococcus of Dopter and came to the conclusion that the parameningoccoci of Dopter are culturally indistinguishable from the true, or normal, meningococci, but serologically they exhibit differences as regards agglutination, opsonization, and complement fixation. Because of the variations and irregularities of serum reactions existing among otherwise normal strains of meningococcus, she did not think it seemed either possible or desirable to separate the parameningococci into a strictly definite class but to consider them as constituting a special class among meningococci, not, however, wholly consistent in itself. This view has been adopted by Captain Ellis (*British Med. Jour.*, 1915, ii, 881) who studied the subject in the mobile laboratory, British expeditionary force, France. He thought the causative agent of cerebro-spinal fever, the meningococcus, to be of at least two types which are independent as regards agglutination, and that, in a study of forty-six strains obtained from patients in six different epidemic foci in England and France, both types occurred, the normal meningococcus in twenty-nine cases and the parameningococcus in seventeen. He found both in the nasal pharynx of healthy carriers. Joseph A. Arkwright, also, (*Brit. Med Jour.*, 1915, ii. 885), working independently in the Lister Institute of Preventive Medicine, arrived at practically the same conclusions. He found that rapidly fatal cases of meningitis occurred from infection with either type of meningococcus. Thus it seemed desirable that both should be represented in a curative serum.

A new method of manufacturing an anti-meningitis serum has been developed at the Rockefeller Institute by Amoss and Wollstein (*Jour. Exper. Med.*, 1916, xxiii, No. 3, 403-417) by which horses are immunized in from eight to twelve weeks, as contrasted with the old method which required from six to twelve months to produce a meningococcic serum of high immunity value. They make three successive intravenous inoculations of living meningococci and parameningococci, repeated at stated intervals, avoiding sudden and alarming symptoms and sudden death in the horses first by employing a desensitizing injection and then by adjusting the doses according to the febrile reaction and by making the highly diluted injections slowly. The authors consider the new method preferable to the slower, subcutaneous methods; the horses undergoing this process of immunization remain in good condition and they even gain in weight. The serum produced has been employed therapeutically in America, England, France, and some other countries, and should be a more reliable therapeutic agent than the commercial sera recently employed abroad.

MEDICAL NOTES.

PREVENTION OF TYPHUS INVASION.—Report from San Antonio, Texas, states that on March 22, the ports of Roma and Rio Grande City, Texas, were opened to immigration, and agents of the U. S. immigration and public health services were established at these cities which have been without such officers for many years. This step was taken to prevent the entrance of typhus fever into the United States from Mexico. Fumigation equipment and gasoline baths have been installed at both stations.

APPROPRIATIONS FOR MEDICAL EDUCATION.—Report from New York states that on March 23 the general education board of the Rockefeller Foundation made appropriations amounting to $2,670,874 for the reorganization of clinical instruction at Johns Hopkins, Yale and Washington Universities on the full time basis. This plan had already been established at Johns Hopkins and is to be extended to the other two institutions.

BUREAU FOR THE STUDY OF THE ABNORMAL CLASSES.—In the issue of the JOURNAL for February 10, 1916, we commented editorially on a bill which had been introduced before the National Congress in 1914 for the establishment of a bureau for the study of the criminal, pauper and defective classes of the United States. At the time this measure failed of passage, but on March 10, 1916, it was reintroduced before the United States Senate as a new bill (S. 4990) and has already been read twice and referred to the committee on the judiciary. Its plan of work was previously endorsed by the American Bar Association and by several medical societies. The text of the bill was published in the issue of the JOURNAL above referred to and readers interested in its passage are urged to write their representatives upon the subject.

BARLOW SANATORIUM.—The twelfth annual report of the Barlow Sanatorium Association for

poor consumptives, located near Los Angeles, California, records the year's progress as follows: The number of patients treated during the year was 130, 47 remaining in the Sanatorium at the end of the fiscal year, leaving a total of 83 to be reported upon. Twenty-four patients, or 29.2%, were discharged arrested or apparently cured; 23, or 28%, were discharged with the disease quiescent; 14, or 17%, improved; 9 patients did not improve and 4 died at the Sanatorium. In addition to the regulation methods of treatment, heliotherapy has been employed to some extent, but while the benefit is apparent in two cases, the time is too short to draw definite conclusions as to its efficacy.

WAR RELIEF FUNDS.—On April 8 the totals of the principal New England relief funds for the European War reached the following amounts:

Belgian Fund	$112,064.67
Serbian Fund	85,194.04
American Ambulance Fund	75,926.58
Allied Fund	73,940.90
French Wounded Fund	68,306.41
French Orphanage Fund	37,579.24
Armenian Fund	36,408.39
Polish Fund	28,587.57
Surgical Dressings Fund	22,839.17
La Fayette Fund	19,663.53
P. S. D. Fund	7,796.73
Cardinal Mercier Fund	2,583.00
French Relief Fund	1,825.00
Allies' Tobacco Fund	1,177.50

BOSTON AND NEW ENGLAND.

THE WEEK'S DEATH RATE IN BOSTON.—During the week ending April 8, 1916, there were 243 deaths reported, with a rate of 16.66 per 1,000 population, as compared with 287 and a rate of 20.00 for the corresponding week of last year. There were 37 deaths under 1 year as compared with 38 last year, and 79 deaths over 60 years of age against 91 last year.

During the week the number of cases of principal reportable diseases were: Diphtheria, 44; scarlet fever, 61; measles, 126; whooping cough, 40; typhoid fever, 3; tuberculosis, 45. Included in the above were the following cases of non-residents: Diphtheria, 9; scarlet fever, 21; measles, 2.

Total deaths from these diseases were: Diphtheria, 4; measles, 1; whooping cough, 3; tuberculosis, 19. Included in the above were the following deaths of non-residents: Diphtheria, 1; whooping cough, 1; tuberculosis, 1.

WORK OF HOSPITAL SHIP.—The United States coast-guard cutter *Androscoggin*, which has been serving during the past season as a hospital ship for fishermen off the Banks and along the coast of the maritime provinces, is now in dry dock at Boston for brief repairs, at the close of her latest cruise. Since November 1, 1915, the *Androscoggin* has cared for 156 patients, 11 of whom were transferred ashore for hospital treatment, the remainder being treated aboard as out-patients. Within a few days the *Androscoggin* will begin her spring cruise.

HOSPITAL BEQUESTS.—The will of the late Mary E. Barnes of Allston, Mass., contains bequests of $1000 each to the New England Baptist Hospital, Boston, and to the Norfolk Provident Hospital, at Norfolk, Va. The residuary estate is also divided between these two institutions.

MASSACHUSETTS GENERAL HOSPITAL TRAINING SCHOOL.—The report of the Massachusetts General Hospital Training School for 1915 states that the number of nurses in the school is 183, of which number 29 are graduates and 33 probationers. About 34 graduates of the school have engaged in war nursing, one, Mrs. Jaggard, who was matron of a hospital on the island of Lemnos, losing her life in the service. There have been 1075 nurses graduated from the school since its inception, of whom about 520 are engaged in active work.

LEGISLATIVE NOTES.—At a recent meeting of the Massachusetts Legislative Committee on Public Health, it was voted to report favorably the bill, now pending before the General Court, to allow the registration of a so-called Chinese herb doctor as a practitioner in this state. Of the seven members present, three were opposed to the measure, and the four absent members are to be polled before a decision is reached. It is, perhaps, needless to add that this measure is, of course, totally disapproved by the medical profession. The bill was presented and defeated at last year's session of the legislature, and should meet the same fate this season.

The committee on public health has also voted to report favorably the Kearney bill, requiring all physicians to report to the State Department of Health all cases of occupation disease, such as arsenic, lead, mercury, phosphorus and wood alcohol poisoning, anthrax and caisson disease.

The legislative committee on social welfare has recently reported favorably a resolve for the appointment of a special commission on social insurance to sit during the recess of the legislature, for the investigation of illness, unemployment and old age, and to recommend such legislation as it may deem desirable for the protection of wage earners. The commission is to consist of two senators, four representatives, and three other persons, to be appointed by the Governor.

OPENING OF NEW HEALTH UNIT.—The first of the series of health units, projected by Dr.

Francis X. Mahoney, Boston Health Commissioner, was officially opened last week at 17 Blossom Street. This unit, which will be under charge of Dr. Charles F. Willinsky, is modeled after the units of a similar nature already successfully established for some time in New York City.

Associated with the local health board in the conduct of the unit are the Women's Municipal League, the Federated Jewish Charities, the Milk and Baby Hygiene Association, the Instructive District Nurses' Association, the West End Mother's Club and the Boston Dispensary.

Nurses will be in attendance at the unit for the care of the sick, for maternity cases, and to give instruction in hygiene in the homes. Dr. Fred Bailey will conduct an occupational clinic. He will instruct the market-men and bakers in the hygiene of food preparation and sale.

A representative of the Federated Jewish Charities will receive reports of needy cases from nurses and doctors, and agents of all other societies connected with the institution will make their headquarters in the unit.

In conjunction with the opening of the unit, a series of evening meetings were held to call it to the attention of the community. At these meetings there were addresses by Mr. Michael T. Jordan, deputy health commissioner; Miss Mary Beard, director of the Instructive District Nursing Association; Dr. J. Herbert Young, director of the Boston Milk and Baby Hygiene Association; Professor Selskar Gunn, of the State Health Commission; and Mr. Michael Davis, director of the Boston Dispensary.

"Miss Beard outlined the work of the Instructive District Nurses' Association and showed slides of the members of the staff at work among their patients. She emphasized the fact that a nurse can be secured from the association for the treatment of any disease but a contagious one. A maximum fee of 50 cents is charged for each visit. This fee is omitted in cases where the patient is unable to pay for the nurse's services. The speaker said that branches of the association can be found in all sections of the city and that a telephone call will bring one to the home of the sick person."

BOSTON BABY HYGIENE ASSOCIATION.—At the annual meeting of the Boston Milk and Baby Hygiene Association recently held in this city, it was voted by the corporation to change its name to the Boston Baby Hygiene Association. Dr. John Lovett Morse was elected president for the ensuing year.

THE BOSTON DISPENSARY.—The report of the one hundred and nineteenth year of the Boston Dispensary has recently appeared. It records its development during the year in the improvement of the x-ray department, the enlargement of the laboratory, the special classes for certain long-time cases of disease, the extension of the follow-up system, the continuation of the night clinics for people of small means who cannot come in the daytime, and in the establishment of the children's preventive clinic. The x-ray department is prepared to do fluoroscopic work and extensive bismuth examinations. The staff and the management of the Dispensary has felt it greatly desirable to place this x-ray equipment at the service of those private patients of physicians who cannot afford to pay the usual fees for x-ray work at private offices of roentgenologists. There is a large number of family physicians who desire the aid of the x-ray in diagnosing some troublesome or obscure condition of one of their patients, but who find that this patient and his family are not able to afford the necessary fee. To such patients the Dispensary is glad to offer the services of the department at fees which cover the cost of the service. During the past six months the laboratory has been equipped for doing complement-fixation tests for gonorrhea. Wassermann tests were begun in 1914. The follow-up system has now been installed in all the more important clinics of the Dispensary. The three evening clinics have now established themselves as interesting and valuable adjuncts of the Dispensary. The evening genito-urinary clinic has become a large service, equal in size to the morning clinic, the average attendance on each of three evenings a week being 60 patients. The syphilis clinic has increased to an average of nearly 25 a night; and the evening eye clinic, the earliest established, is now ending its third year with an attendance of between 20 and 25 on two nights a week. A wholly new feature of 1915 was the establishment of the children's preventive clinic. In the nine months in which the clinic has been in operation, 119 children have been examined, of whom 111 have shown defects, 74 of these showing more than one defect. Regarding the investigation made by the Dispensary of the financial and social standing of its patients and its efforts to supply medical aid to those unable to pay for adequate treatment, the report states:

"Fully three-fourths of all our patients belong to family groups, and more than three-fourths of these families have but one wage-earner; 37% of families live on $600 or less, 49% on $700 or less, 70% on $800 or less, 77% on $900 or less, 83% on $1000 or less. per annum; 3% are dependent on charitable relief; 14% have over $1000, *i.e.* not more than 1400 new families a year have more than $1000, while 8000-9000 have less than $1000. Among those listed as unmarried, about 4000 new patients a year, 78.6% are living on $600 or less a year, *i.e.* only between 700-800 unmarried applicants out of 4000 earn over $12 a week.

"It is a general opinion among students of wage-earners' budgets that even small families in this vicinity living on $1000 or less a year should not be expected to purchase more medical service than that necessary to childbirth

and acute illness in the home. As the use of our free district physicians shows, many families cannot meet even these emergencies. We have seldom, therefore, doubted eligibility or refused treatment at this Dispensary, unless the family income exceeded $1000. Our rule for the unmarried wage-earner is to weigh carefully the reason for accepting when the income passes $600."

Massachusetts Medical Society.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.

WHEREAS, The President and the Honorable Secretary of War have announced in the public press that a scheme for the reorganization of the army will be presented to Congress at its coming session, which will materially increase the military establishment, and

WHEREAS, We recall the indignant protests and criticisms of the nation at the failure to provide adequately for the sick and wounded at the beginning of the Civil War and the Spanish-American War, and

WHEREAS, It is known that this failure was due to the lack of a sufficient number of medical officers in the regular army and a means for increasing the medical establishment at the outbreak of war, and

WHEREAS, In spite of the lessons of the Spanish-American War, which were fresh in mind in the reorganization of the army in 1901, the Medical Department was not properly increased, and no provision was made for its expansion in time of emergency, and

WHEREAS, To correct the defects in the 1901 legislation, subsequent legislation was necessary in which the medical profession of the United States was called on to assist;

THEREFORE, Be it resolved by the Essex North District Medical Society, in session at Haverhill, Mass., that the Secretary of War be petitioned to make adequate provision in the reorganization of the army about to be presented to Congress, for a sufficient number of medical officers for the regular establishment, which provision should aggregate a proportion of medical officers of, at least, seventy-hundredths of one per cent. of the enlisted strength of the army, or such numbers as the Surgeon-General of the army may deem necessary, and

Be it further resolved that the Secretary be petitioned to make provision in this reorganization for the expansion of the Medical Department at the beginning of war, by calling into service in the Medical Reserve Corps physicians from civil life who have been instructed in their special duties as medical officers in our summer camps, and otherwise as the War Department may see fit.

J. FORREST BURNHAM,
Lawrence, Mass., March 20, 1916. *Secretary.*

Obituary.

WILLIAM PALMER BOLLES, M.D.

DR. WILLIAM PALMER BOLLES died at Santa Barbara, Calif., March 18, 1916, aged 70 years. Dr. Bolles was a practitioner of Roxbury, Boston, for forty years. He was born in New London, Conn., June 14, 1845, and was a graduate of the Harvard Medical School in 1871, serving as a house officer at the Boston City Hospital and soon becoming surgeon to out-patients and surgeon to that institution. Here he served until he was retired at the age limit, in 1908, becoming surgeon emeritus. He was professor of materia medica and botany in the Massachusetts College of Pharmacy from 1874 to 1884, and instructor in materia medica and therapeutics in the Harvard Medical School from 1880 to 1884. He joined the Massachusetts Medical Society in 1871, was a councillor from 1890 to 1893, and was retired in 1913. He was a member of the American Medical Association, of the Boston Society for Medical Improvement, of the Dorchester Medical Club, of the New England Historical and Geneaological Society, and a life member of the Boston Medical Library. He is survived by his widow, who was Miss Martha B. Sumner of Boston.

Miscellany.

MEMORIAL RESOLUTION FOR DOCTOR ROWE.

AT a meeting of the Boston Society of Psychiatry and Neurology, March 16, 1916, the following memorial was read:—

George Howard Malcolm Rowe died at his home in Boston, January 30, 1916, after an illness of several years. He was born in Lowell, February 1, 1841, was graduated from Dartmouth College in 1864 and from the Harvard Medical School in 1869. After a year in the Pennsylvania Hospital for the Insane, he accepted a position in what was then called the Boston Lunatic Hospital, where he remained till he was called to the superintendency of the Boston City Hospital in 1879. While in the Lunatic Hospital he showed an ability for work and a thoroughness, which later contributed much to

his success in what proved to be his life work in the City Hospital. He also developed a love for the field of psychiatry which he never lost, but which he was unable to follow into its more recent advances owing to the pressure of work in hospital administration.

As Superintendent and Resident Physician of the Boston City Hospital, he followed Dr. Edward Cowles in the work he had so admirably begun, and brought the Hospital to an enviable position among the hospitals of the country. He was deeply interested in all problems connected with medicine, especially in hospital construction and administration, in both of which he excelled. During his administration the Hospital increased greatly in size and equipment, keeping fully abreast of the times. This was largely due to the confidence won by Dr. Rowe from his trustees, the city government and the public. He was the soul of honor, indefatigable in work and with an ability for detail which was remarkable. After nearly thirty years of faithful and arduous service he was obliged to resign his position as Superintendent on account of sickness and failing strength. The remaining years of his life were passed quietly in the companionship of a most devoted sister.

He was a charter member of this Society, a member of the American Medical Association, American Health Association, Association of Hospital Superintendents, of which he was at one time president, American Medico-Psychological Association, and various other medical, philanthropic and social societies. He organized the Hospital Round-table, the object of which was to bring together the superintendents of the various hospitals for the informal discussion of the problems and difficulties connected with hospital management.

RESOLVED, That the Boston Society of Psychiatry and Neurology place on record its appreciation of the character of Dr. Rowe and of the great work he accomplished.

RESOLVED, That a copy of this resolution be sent to Miss Rowe, be spread on the records of the Society and be published in the BOSTON MEDICAL AND SURGICAL JOURNAL.

CHARLES G. DEWEY.
E. V. SCRIBNER.

Correspondence.

AMERICAN ASSOCIATION OF GENERAL PRACTITIONERS.

BOSTON, March 15, 1916.

Mr. Editor: Regarding the forming of an Association of General Practitioners as suggested by Dr. Sanborn in this week's JOURNAL, I agree that something should be done in this line.

The plight of the ordinary doctor in the near future will be an unenviable one, if the widespread propaganda by the hospitals, specialists and social workers, bear fruit. Their chief aim seems to be to discredit the ordinary physician in the eyes of the public.

One missionary says "Massachusetts is a dumping ground for incompetent doctors." Another says "Only the very rich, who can afford specialists, and the very poor who go to the hospitals, get proper treatment in Boston." All the lesser lights take their cue from these "leaders".

In the "Baby Week" addresses, the hospital idea was as usual emphasized. The women were advised to go to the hospital for examination when pregnant, and when the baby was sick the child must be brought to the out-patient clinic. The point was brought out that the hospital was the proper and only place for the pregnant woman during childbirth.

The "follow-up" method of the social workers, as outlined in a recent article in the JOURNAL, the object of which is too plain to disguise, is a disgrace to the profession and savors only of quackery.

The unfortunate part of this booming of hospitals and their attachés, is that the poor are crowded out by well-to-do middle class people. The out-patient departments should be for the sick poor, and they should get first-class treatment, but as matters go now, fifty people attend a clinic, when only five or ten people have a right to be there: the result, all get slipshod treatment, and the unfortunates who have a right there, are shamefully neglected.

A Roxbury physician tells me that he has lost seventy-five per cent. of his office patients since the establishment of a hospital nearby, dedicated by the founder to the use of the sick poor, but used by sick rich (who are encouraged to use it, by the leaders of the profession), as usual, crowding out those whom the hospital was intended for by the founder.

We do need an association of general practitioners, but what of the Massachusetts Medical Society? Why is nothing done for the material interests of the profession? The answer is plain: specialists on every committee: men who make ten to fifty thousand a year. The interest of the man who makes a thousand dollars a year or less, concerns them not. Either elect men who are in sympathy with the profession at large, or if this is impossible, by all means let us form a society to protect the elementary rights of the profession.

CHARLES MALONE, M.D.

5 Glen Road, Jamaica Plain, Mass.

THE PROPOSED AMERICAN ASSOCIATION OF GENERAL PRACTITIONERS.

BUFFALO, N. Y., March 16, 1916.

Mr. Editor: With all due respect, I beg to present the opposite argument to the proposal of Dr. Edwin A. Sanborn of Somerville. While a specialist, my ultimate view-point is not essentially different from that of the average general practitioner.

1. Any subdivision of the medical profession weakens the *esprit de corps* and the general influence of the profession. While the specialist, or the general practitioner for intensive study, may require organizations of limited scope, he should also be in active affiliation with medical organizations of general nature.

2. Every advance made along any special line of study is potentially, if not immediately, available for other apparently widely different lines of practice and, *a fortiori*, for general practice. Conversely, it is only in organizations based on the needs of the general practitioner that scientific advances can be properly correlated and subjected to ultimate practical testing and modification. Simply as illustrations of the necessity of keeping specialists in touch with general medicine, I may mention that the American Gastro-enterologic Association has always opened its doors to surgeons, pathologists, physiologists and general practitioners and has often presented programs on which gastro-enterology in the limited sense, was in the minority. I find it necessary to attend meetings of

general nature and, indeed, get the most valuable hints for special application from them. Often a subject apparently most remote from my work, yields very practical information for use in a limited field. For example, I have occasionally applied gonococcic vaccines to the treatment of gastric neuroses, especially hyperchlorhydria and I obtained valuable hints from a paper on sacro-iliac disease which I heard simply because of the desire to be present as a physician, at a meeting of general practitioners. The most dangerous specialist, especially if his practice is along surgical lines, is the one who is not also, at heart and in his medical interests, a general practitioner.

3. There already exists a large, influential and well-organized system of professional societies, the membership in which consists of general practitioners, in an overwhelming majority. In most communities of considerable medical population, this system is duplicated by independent associations, of which the same is true. On the one hand, why shut specialists from these organizations or, on the other hand, why create a rival organization on similar exclusive lines?

4. The argument that the general practitioner understands his patient better than the stranger does not by any means imply that he is equipped or competent to perform some special feat for that patient. It not infrequently happens that a patient may be under the care of some one surgeon, oculist, dentist, or other specialist for a long term of years, but that does not render the specialist competent to undertake the care of a different condition with which he is not conversant.

5. As to the contention that the physician should not be handicapped with regard to dispensing medicines; the specialist must agree since, for a less extensive range of armamentarium, it is even more necessary that he should be thus equipped. That, for complicated prescriptions, not required for immediate use, a pharmaceutic specialist should be employed whenever practical, seems to be sound sense as well as good ethics.

6. The criticism as to hospital management applies as much to specialists as to general practitioners. Certain general practitioners exploit the close-service method as much as specialists, and the converse also holds good. A publicly-supported institution should be public all the way through.

7. Retrieving methods are, according to my observation, likely to prove retroactive. They are not entirely confined to specialists. The conception of ownership of a patient seems to be rather a mark of general practice than of specialism and while this is, in a sense, proper, failure to recognize the right of choice by a patient is always liable to produce bad feeling and is sometimes carried to a ridiculous extreme. For example, a specialist, who was asked to take care of a labor case, declined on account of limitation of practice, and referred the family to a young general practitioner. Some months later, the specialist was consulted for a condition properly included in his specialty and affecting the baby which had not had any medical attendance since the puerperium, during which time it was presumably under the care of the doctor who delivered it. The latter promptly accused the specialist of stealing the case. I have personally been embarrassed in several consultation and reference cases by having another physician claim sole jurisdiction by virtue of prior attendance. In almost all of these instances, matters have been amicably settled, but some have presented such a confusing mass of claims that they were difficult to adjust satisfactorily to all. In one case, I was made party to a homicide, being consulted by a general practitioner and advising operation. Some time later, I was invited to be present at the operation which was attempted by the physician himself. He became confused, lay down, and the interne and myself were compelled to do what we could to get the patient off the table alive, although totally unprepared and unqualified. In these days of frequent changes of residence, lay independence and subdivision of practice, it seems to me that the only satisfactory solution of these ethical problems is for every practitioner, without regard to his kind of practice, to grant practically the right of choice which theoretically belongs to the laity and to which they have a legal right. This contention is made, not on the ground that the specialist, by surrendering the advantage of extension of one case to another of different kind, has the right to take what comes to him in his particular field but because if the specialist attempts to subordinate himself to the claims of the family physician, he is so often in a quandary as to which particular family physician has the paramount claim. Even considered judicially, this is really a difficult task. When it comes to a practical decision seeking to reconcile all claims, including the patient's desires and welfare, it is still more difficult.

8. What is most needed at present is to reduce medical societies instead of organizing new ones; to emphasize the community of interest of the medical profession instead of magnifying differences; to correct such evils as may exist through the machinery of existing organizations.

A. L. BENEDICT, M.D.,
Editor of the Buffalo Medical Journal.

USE OF BACTERINS IN DERMATOLOGY.

BOSTON, MASS., March 16, 1916.

Mr. Editor: In the issue of the JOURNAL of Jan. 13, 1916, under "Correspondence" there is a letter by Dr. Charles J. White on the "Use of Bacterins in Dermatology," which, I believe, should not go unanswered. His reference to the "ability to succeed in the making and administering of bacterins" being a "gift of the gods", I believe, needs an explanation.

Bacterial vaccines in medicine are too important and valuable a therapeutic agent in a variety of diseases and most especially in dermatology to be abandoned as a "field defeated," and the setting down that its success depends upon a special "gift of the gods." Success in therapeutic immunization or the successful use of bacterins in dermatology or any other disease is in my experience not a matter of the "gift of the gods" but rather a question as to how much time one cares to devote to it.

The preparation of the proper autogenous vaccines presupposes a knowledge of bacteriology. The proper understanding and interpretation of the reactions following the administration of vaccines and the gauging of subsequent dosage depends upon the amount of knowledge of immunology one possesses. Upon both the foregoing depends the success in this method of treatment. It goes without saying that a busy specialist in any of the clinical branches of medicine with very little knowledge, if any, of bacteriology could hardly expect to obtain successful results with vaccines, particularly if he would depend upon "stock" vaccines, half-heartedly administered. The reason that men specially appointed and paid to do vaccine therapy in some hospitals fail is, I believe, due to lack of interest these men take in the work to which they are supposed to devote their whole time.

Instead of constantly applying themselves to the preparation of the proper autogenous vaccines, study, and establishing their effects in a variety of diseases, as they have the possibilities of doing, and not waiting for a young house-physician from Kansas City to come and show them what can be done with vaccines; instead of studying the therapeutic application experimentally on animals on those infections in which vaccines have as yet not been demonstrated by other observers to be of value; instead, in fine of applying themselves to the work which they are supposed to do whole-heartedly, they wander off in all kinds of directions, as the studying of the rôle played by the diphtheroid bacillus in Hodgkin's disease, or they become syphilologists and devote their time to

salvarsanized serums, etc., all of which is no doubt highly commendable and excusable in private practice and of value in their own fields, but what relation are they to vaccine therapy in public institutions?

The great pity of it all is that the big lights in the profession in the various branches of medicine, who owing to their standing, are looked up to as guide-posts by the medical men as well as the laity, the consultants and the heads of the big clinics—these men, basing their opinions upon the failures of such so-called vaccine work, are actually misleading others and depriving the sufferers of what might result in a cure in a variety of diseases due to bacterial infections.

A virile man at the head of a vaccine therapy department (Therapeutic Immunization Department) could accomplish an immense amount by having the house officers in the various departments prepare the proper vaccines for the patients in their respective clinics, under his direction, and administer such vaccines under his guidance. The house officers would thus gain a great deal of knowledge of practical bacteriology and familiarize themselves with therapeutic immunization. The work, if carried out in this way, would reduce materially the percentage of failures in a considerable number of diseases due to bacterial infections and would relieve a great deal of unnecessary suffering in such patients. It would cut short the length of time of the patients' stay in the hospital, which is quite an economic consideration in any big institution. The field is big and the possibilities for good are immense, if handled properly.

This is not intended as a personal criticism of anyone. It is meant in the spirit of a wholesome criticism of a prevailing method of doing things, which in my opinion, has a tendency to be a factor for bad rather than for good. I do not believe that this letter will change matters to a great extent, but at least I feel that I have done what I think it my duty and obligation under the circumstances to do.

LEON S. MEDALIA, M.D.

483 Beacon Street.

SOCIETY NOTICES.

PETER BENT BRIGHAM HOSPITAL.—There will be a Medical Meeting in the amphitheatre of the Peter Bent Brigham Hospital on Tuesday evening, April 18, at 8.15 o'clock.

PROGRAM.

1. Demonstration of cases.
2. Ochronosis and Alkaptonuria.
   Professor W. T. Councilman.
3. The Use of Fibrin Paper and Forms in Surgery.
   Dr. S. C. Harvey.
4. Renal Function in Pernicious Anemia.
   Dr. Henry A. Christian.

Medical students and physicians are cordially invited. Telephone Brookline 5260. Any visitors may be on telephone call if their names are left at the front office of the Hospital.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.—The Annual Meeting of the Society will be held at the American House, Boston, on Wednesday, April 19, 1916, at 11.00 A.M. The annual oration will be delivered at 12.00 o'clock, noon, by Dr. Charles F. Painter of Newton. Subject: "Preparedness for the Study of Medicine."

Dinner will be served at 1.00 P.M.

LYMAN S. HAPGOOD, M.D., *Secretary.*

NEW ENGLAND PEDIATRIC SOCIETY.—The forty-fourth meeting of the New England Pediatric Society will be held in the Boston Medical Library, Friday, April 28, 1916, at 8.15 P.M.

The following papers will be read:—

1. Some Phases of the Recent Epidemic of "Acidosis." P. H. Sylvester, M.D., Newton.
2. Pulmonary Tuberculosis: A Study of its Occurrence Amongst the Children of Infected Families. H. I. Bowditch, M.D., Boston.
3. The Treatment of Tuberculosis in Infancy. W. W. Howell, M.D., Boston.

Light refreshments will be served after the meeting.

A. C. EASTMAN, M.D., *President.*
RICHARD M. SMITH, M.D., *Secretary.*

RECENT DEATHS.

DR. THOMAS HUGH O'CONNOR, a medical inspector of the Board of Health, died at his home in Roxbury, March 30, 1916, aged fifty-nine years. Dr. O'Connor was born at Milford, N. H., December 21, 1856, attended the schools of that town, and then was graduated from the College of Physicians and Surgeons, Baltimore, in 1893. After serving as house officer in the Baltimore City Hospital for a year, he settled in Boston, with an office on Tremont Street. He had been school physician and police physician besides being an inspector for the Boston Board of Health. He was a Fellow of the Massachusetts Medical Society, of the Boston Medical Library, a member of the Boston Lodge of Elks, of the Catholic Union and of the Charitable Irish Society. His death was due to a fall on the ice, causing fracture of the skull and cerebral hemorrhage. He is survived by his widow, who was Miss Rose Terrell, and by two daughters.

DR. FRANCIS ABELE, JR., who died on March 26 at Quincy, Mass., was born in Roxbury, Mass., on October 25, 1868. After graduating in 1886 from the State Normal School at Bridgewater, he taught for a time and then entering McGill University at Montreal, received from that institution the degree of doctor of veterinary medicine. He began practice at first in western Pennsylvania but later went to Milford, Mass., and in 1895 to Quincy. Since 1899 he had been an inspector of animals and an officer in the National Association of Veterinary Surgeons. He was also a member of the Massachusetts Veterinary Association and a district officer of the Massachusetts State Board of Health. He is survived by his widow and by two sons.

DR. J. EDWARD AUSTIN, who died on March 29 at New Bedford, Mass., had been for more than twenty years a physician in the government service of Costa Rica and Honduras, where he had charge of medical inspection and sanitation. After receiving his degree from the University of Columbia, Dr. Austin engaged in the special study of tropical disease. He achieved a distinguished reputation by overcoming and controling yellow fever, first in Costa Rica and later in Honduras, where he accomplished all that was done by the United States in Cuba and Porto Rico. He also developed in Honduras an extensive private practice and resided there during the greater part of his active career. He is survived by his widow.

DR. LYDIA MARIA HOLMES, who died recently at Arlington, Mass., was born in Fort Lee, N. J., February 11, 1828. She obtained the degree of M.D. in 1868 and had subsequently practised as a physician in Concord and Needham, Mass.

DR. ORIN WARREN, a retired Fellow of the Massachusetts Medical Society, died at his home in West Newbury, Mass., April 6, aged 83 years. He was born in Fryeburg, Me., in 1833, was graduated from the Jefferson Medical College in 1858 and was a veteran of the Civil War. He leaves his widow and one daughter.

DR. GEORGE A. FAGAN, of North Adams, Mass. who died at Troy, N. Y., on April 1, was born at North Adams in 1871. After graduating from Holy Cross College, he received the degree of M.D. from McGill University in 1898. He immediately settled in practice at North Adams and was for two years chairman of the local board of health.